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M I N D

A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY

I.—REPLY TO MR. JOSEPH.¹

BY G. F. STOUT.

I HAVE, for some time, been aware of serious faults in the account of the perception of external objects given in my *Manual* and *Groundwork*. But I trace these faults not to any vital error in fundamental principles, but to a failure to follow out my own principles faithfully and accurately. Mr. Joseph, on the contrary, alleges that there is a radical vice in the presuppositions which are, in his opinion, common to me and to all psychologists as such. The primary assumptions which he ascribes to me in common with all psychologists are twofold:—

(1) That the mind starts with a separate knowledge of its own sensations only, and subsequently passes by a distinct and additional process to the apprehension of external things; (2) that the supervening process of transition from sensation to sensible things depends merely on such psychological laws as those which are exhibited in “association of ideas”.

Now, I admit most readily, that such a view is untenable, and that if it were really my view, Mr. Joseph's criticism of my work would be entirely cogent, but I disown both the positions which he ascribes to me. As regards the first, indeed, he is so far right, that I do assume in the *Manual* and in the *Groundwork* the existence of certain sense-experiences which do not of themselves involve the apprehension of sensible things. The reason is that when I wrote these books, I regarded the awareness of “external” existence as distinctively conditioned, not by all sensations, but only by a certain

¹ See MIND, N.S., Nos. 75, 76.

class of sense-experiences, which alone exhibit a special form of contrast between felt passivity and felt activity. But I certainly did not say or think that the sense-experiences having the required character are or can be separately apprehended, so as to demand or even to admit of a further process of transition from sensation to external object. On the contrary, the view indicated is that, from the outset, experiences fulfilling the assigned conditions necessitate by their nature the assertion of external existence. This is the position of the *Manual* and *Groundwork*. In my later writings, I give up the view that there are sensations which do not involve this objective reference: thus my final position is that some apprehension of external existence, however vague and rudimentary, is indivisibly bound up with all sense-experience.¹

In rejecting the first of the fundamental assumptions which Mr. Joseph attributes to me, I, of course, also reject the second. I may add that I should still continue to reject the second even if I saw reason to accept the first. Even if I began by supposing the mind to be initially confined to the circle of its own sense-experiences, and then attempted to assign a supervening process leading to the knowledge of existences lying outside this circle, I should never expect to find the required conditions in merely psychological occurrences as regulated by merely psychological laws. I cannot imagine myself embarking on any such undertaking without at least presupposing as part of the initial equipment of the growing mind the principle of causality or sufficient reason.

Mr. Joseph has, it would seem, profoundly misunderstood my general philosophical position, and the misunderstanding necessarily extends to my view of the nature and aim of Psychology. But I must hasten to add that this general misapprehension does not wholly destroy the point and value of his special criticisms of my account of the development of the perception of the external world. On the contrary, I am pleased to recognise that in part, at least, his objections are well founded, and that they bring to light important defects in my treatment of this subject, of which I have become increasingly sensible myself for some years past. What I have to urge in reply is that his strictures are only partially relevant, and so far as they hit the mark they reveal, not so much inadequacy or error or deficiency in my general principles, as a failure to apply them faithfully. As regards the misunderstanding itself, I am far from asserting that the fault

¹ See my paper on "Things and Sensations," *Proceedings of British Academy*, 1905-1906.

lies wholly with Mr. Joseph. I am myself in part responsible, inasmuch as I have allowed myself to be influenced by the fashionable prejudice against introducing general philosophical discussion into a text-book of Psychology—against what is called “mixing Psychology with Metaphysics”. If I had been addressing myself especially to readers such as Mr. Joseph, I should have adopted a different course. This applies mainly to the *Manual* and *Groundwork*, not to the *Analytic Psychology*, and not to my more recent writings.

I shall now proceed to sketch in broad outline my general view of the nature of knowledge and to show how this determines my view of the special function of Psychology as a department of Philosophy; I shall then consider the application to the special psychological problems connected with the perception of external objects as existing in space independently of their being perceived.

My fundamental position is closely akin to that which Kant expressed in the maxim, “Thought without sense is empty, and sense without thought is blind”. In my own language, I recast this formula as follows: All knowledge includes in inseparable unity two correlated elements, the experiencing of presentations and the thought of objects. By presentation I mean whatever is or may be existentially present in consciousness as a toothache is present in the moment in which it is being actually felt, or as a sound-sensation is present in the moment of actual hearing, or as a colour-sensation is present in the moment of actual seeing. What is thus existentially present at any moment is, in the strict sense, experienced and may be called an experience. Whatever is not thus existentially present, though it may be known through experience, is not itself experienced at the time at which it is known. The mind has cognizance of it as something thought of, not as something actually present. It exists *for* the mind, but does not exist *in* the mind.¹ Thus, future, past, and merely possible presentations can only be thought of, not actually experienced, in the present moment of consciousness. On the other hand, an actual presentation may also be object of thought in so far as it is apprehended as related to what is not existentially present at the moment, e.g. the continuance of its own existence from the past and into the future. When I think of a future or past visual presentation by means of a present mental picture, the mental picture is actually experienced, and the future or past

¹ The old Berkeleyan phrase “to exist in the mind” seems to me useful and convenient when its meaning is defined in this way.

visual presentation is merely thought of : but the mental picture may also be implicitly thought of as meaning the future or past presentation. It is thus an object of thought as well as an actual experience. Similarly the present phase of the mental picture itself is an object of thought inasmuch as it is apprehended as a transition between past and future phases, which as such are not existentially present in consciousness. Thought, then, as distinguished from presentation consists in the awareness of whatever is not at the moment an actual content of experience, or in the awareness of what is actually experienced as related to what is not so experienced. The object of thought as such is whatever the mind *means* or *intends*; presentation is what exists in the mind, and is not merely meant or intended by it. All knowledge, as I began by saying, seems to include in inseparable unity the experiencing of presentations and the thought of objects. These two constituents of all cognition are correlated in such a way that thought gives meaning to presentation, and presentation specifies the direction of thought. What it is that the mind means or intends at any moment depends on its actual experience at that moment ; but if it were confined merely to the actual experience it would not mean or intend anything. Presentation without thought is blind ; thought without presentation is empty. Memory supplies a good example. In remembering a past event, the remembrance is conditioned by the specific nature of our actual experience at the moment. But the past event as the mind means or intends it is not an actual experience at the moment. Nor is there any distinct step of transition from the present experience to the past event. There is only one indivisible cognitive act in which we may by analytic reflexion distinguish two inseparably correlated elements, the thought of the past event, and the specifying content of actual presentation by which the direction of thought is determined. For every variation or difference in the specifying content of presentation there is a corresponding variation or difference in the nature of the object of thought. This may be expressed by saying that the specifying content *represents* the object. But in using such language we must be careful to distinguish this primary representative function from other forms of representation. In other forms of representation one object already known is regarded as representative of another object already known. A map, for example, is regarded as representing the relative position and distance of places, or the motion of the hands of a clock is regarded as representing the lapse of time. But the specifying

ing function of presentation is involved in all awareness of objects. Other forms of representation are therefore derivative from this and presuppose it. It may be used to explain them, but they cannot be used to explain it. For this reason it would be well if we could conveniently express the distinction by using different words. I should like to say that the object determined by the specifying content of the presentation is *presented* not *represented* by the presentation. According to this usage, when a presentation itself is said to be presented, this would merely mean that it exists as a presentation, *i.e.* that it is existentially present in consciousness. When an object is said to be presented, this would mean that thought is directed to this special object rather than to any other through the special content of a presentation. But the double use of the terms "presentation" and "presented" is a serious objection to this proposal.¹

The foregoing account of the general nature of knowledge is still essentially incomplete. I have as yet omitted a point of fundamental importance. I have referred only to a plurality of distinct objects each determined for thought by correspondingly distinct presentations. But the scope of thought is never confined to such special objects, or to any collection of them however extensive. Whatever may be the special items with which the mind is occupied at any moment, they are never apprehended as absolutely self-complete and self-contained. They are always apprehended as partial constituents of a whole which includes and transcends them and as connected with other unspecified constituents of the whole. Further, the whole is for thought always one and the same. It is what we call the Universe. Whatever special objects are directly presented (represented), the universe is indirectly presented as their necessary continuation and completion. Thus the universe, or as Malebranche used to say, "being in general," is the universal object of all thought as such. But the special items which from moment to moment we distinguish within the unity of the universe depend on presentations, as they come and go in the individual mind. Similarly the special objects present to different minds vary according to the varying nature of the presentational material which each acquires in the course of its life-history. But all apprehend the same universe. Each, as Leibniz says, "mirrors" the universe from its own point of view, and its point of view is conditioned by the distinctive character of its own individual experience. As the total

¹The double use would almost inevitably expose me to the charge of equivocation.

object of all thought is the universe in its unity, the development of knowledge has always two distinguishable but inseparable aspects. On the one hand, it consists in a more and more extensive and intimate acquaintance with special features of the whole and their modes of interconnexion. On the other hand, it consists in increasing insight into the general nature of the unity of the universe, leading progressively to fuller, more definite, and more accurate apprehension of certain universal structural principles, which may be called categories. These two aspects of the development are interdependent. The categories may, in a sense, be truly described as *a priori* forms of thought, or rather of the object of thought, *i.e.* Reality. But this must not be taken to imply that our knowledge of them is definitely fixed, complete, and infallible from the outset. On the contrary, our apprehension of these universal principles grows, in definiteness, fullness and correctness, with the growth of the detailed knowledge dependent on special experience. At the same time the detailed development is throughout conditioned implicitly or explicitly by the categories, inasmuch as these control the direction of selective attention, retention, and reproduction and the processes of productive imagination by which presentational material is moulded in accordance with the requirements of thought.

Such being the general nature of knowledge, it is possible accurately to assign the precise scope of the psychology of cognitive process. Psychology investigates the development of knowledge as conditioned by presentations and by the gradual acquirement and elaboration of presentational material in the individual mind. It is therefore concerned with such factors as attention, retentiveness, reproduction, association, and also, though less directly, with the physiological conditions of sensation and movement. For instance, it is a psychological problem how the fact of our having perceived a thing makes it possible to think of it again when it is no longer perceived; and the psychological answer consists in assigning the conditions of the occurrence of a presentation so connected with that which originally specified the thought of the object as to fulfil an equivalent function in again determining the direction of thought to the same object. Similarly as regards the problem with which we are at present occupied, the psychological questions which emerge are the following: (1) What are the presentations which determine for thought the existence and nature of a material world? (2) What is the primary significance of these presentations as determining the original apprehension of

external reality which is presupposed in all subsequent developments of it? (3) Wherein does the subsequent development consist as conditioned by elaboration of presentational material through attention, retention, productive imagination, etc., under the guiding control of the original thought, and also of certain fundamental categories which themselves become more fully and explicitly and accurately known as the process advances?

The answer to the first question seems plainly indicated. From beginning to end, it is through *sensuous* presentations that we are conversant with an external world. In particular, apprehension of this world as a whole of parts coexistent in space seems dependent on the extensive character of certain presentations, more especially those of touch and sight. I do not indeed say that the thought of a universal order of existence is itself accounted for by sensuous presentation. On the contrary, I regard this as a category—a pure concept in the Kantian sense.¹ But here as elsewhere thought without sense is empty. The pure concept of an order of coexistence is in itself a mere blank form. To constitute even the most rudimentary apprehension of extension in space, it must be specified and determined by the immediate content of sensuous presentation, and the sensuous content which primarily fulfils the function is the extensiveness of visual sensations and touch sensations. Mr. Joseph appears to find great difficulty in the conception of an extensive character belonging directly to sensuous presentations as such. But his objections seem all to hinge on the assumption that the parts of the extensive quantum are distinguished by the qualitative differences which have been called local signs. This however is merely a hypothesis which may very well be false.² What, from my point of view, is important is not the hypothesis but the fact which it is intended partially to explain. The essential fact is that colour presentations and touch presentations both as actual sensations and as images retained or revived, are diffused in a continuous quantum within which it is possible to distinguish parts outside of each other, beside each other, and between each other. A peculiar significance attaches to this distinction of the extensive parts of sense presentation inasmuch as it marks for thought the coexistence of distinct things as subjects of qualities, states, and

¹ I have failed to make this explicit in my account of the development of spatial perception. But, evidently, it meets many of Mr. Joseph's difficulties.

² I think that Mr. Joseph's arguments constitute a strong though not a conclusive case against it.

processes, and not merely different states, processes, and qualities of the same thing.

Our second question concerns the general nature of the reality which thought apprehends on the basis of sensuous presentation.

Sensuous presentations determine the thought of something which transcends their own existence: what is this something, and how is it connected with the presentations themselves? We may dismiss, at the outset, the Berkeleyan view that what each presentation signifies is the past, future, or permanently possible occurrence of other presentations within the experience of finite individuals. It is impossible to resolve what we know as the material world, or anything which we recognise as a material thing, into groups or series of actual and possible sensations emerging within the experience of individual percipients. What is required is the thought of a domain of existence containing parts which persist, change, and interact, independently of the coming and going of sensuous apparitions in the consciousness of finite individuals. On the other hand, we must set aside any view which regards this realm of independent existence as radically disparate in kind, or as discontinuous in existence with the presentations through which we, as thinking beings, are conversant with it. Such assumptions are irreconcilable with the ineradicable presupposition of ordinary consciousness that what is immediately given in sense experience is itself matter, and not merely a symbol of matter. Such assumptions also seem to preclude the possibility of accounting for the development of our detailed knowledge of material things and processes in their systematic interconnexion. For every step in this development presupposes the possibility of a thorough-going correspondence between distinctions and relations within the immediate content of sensation and distinctions and relation within the realm of material existence with which thought is conversant by means of sense-experience. This thorough-going correspondence seems inconceivable if the sensuous signs are regarded as fundamentally disparate in nature or discontinuous in existence from what they signify. I feel bound, therefore, to reject the Kantian doctrine that matter as it is in itself is so completely heterogeneous from anything which we immediately experience as to be absolutely unknowable. For the same reason, I feel bound to reject monadistic theories which regard matter *per se* as consisting in a collection of individuals each having a sort of individual unity, essentially analogous to that which characterises the human self as a thinking and willing sub-

ject. The material world as something known through sense-experience must itself be like sensuous presentations themselves, a divisible stuff and not a collection of indivisible units. In a word, it must be matter and not mind.¹

Thus I agree with common-sense and with the new realists as represented by Mr. Moore, in affirming that what is existentially present in consciousness in sense-perception is matter directly apprehended as it is itself. Only I must insist that what is existentially present both is and is thought as being partial and fragmentary. For thought, it signifies its own continuation and completion in a whole which transcends and includes it.

I have now assigned the general presuppositions which I postulate as necessary and sufficient for the solution of our third problem, concerning the detailed development of our apprehension of external objects. As yet we are barely on the threshold of this problem. So far as we have yet proceeded, our position is as follows: (1) There is a realm of real existence apprehended as being of a piece with the immediate content of sense-experience. (2) Difference, relation, and change within the content of sense-experience is thought as continuous with correlated difference, relation, and change in this external reality. (3) In particular, distinction and relation within the extensity of visual, tactful, and other extensive presentations signify distinctions and relations of things, as subjects of states, processes, and qualities, as contrasted with qualities, processes, and states of the same thing.²

But beyond this all is initially dark. The realm of external existence is an indefinite background penetrated only at the tiny loophole where it is confluent with our sense-experience. Between this primitive awareness of external reality and our developed apprehension of the material world, there is an immense gap which requires to be bridged. We have to show by what steps we reach out beyond our immediate sensuous communication with the realm of external existence, and, piercing its depths, apprehend it as an arti-

¹ On this point, my views have undergone a radical change. I have gradually come to realise that even the wonderful constructive ingenuity of Leibniz and Lotze cannot make a monadistic theory of matter really tenable. I may add that if matter really consists in monads, Leibniz seems to be right in holding that they can have no "windows".

² It is to be noted that the discernment of distinction and relation within the content of sense-experience only emerges gradually, and the processes of its development have to be traced. In my account of the development of spatial perception, for example, I lay much stress on this aspect of the psychological problem.

culate system of definitely distinguishable parts persisting, changing, and interacting according to uniform laws,—persisting, changing, and interacting independently of the vicissitudes of that very sense-experience which is, from beginning to end, the indispensable basis of the whole development. Especially, we have to show how it is possible to reach a position from which we can return upon sense-experience itself, and assign what are called its physical and physiological conditions; a position from which we can regard the stream of our sensations as one train of occurrences among others, arising in direct and unconditional connexion with certain processes in a part of a small portion of the material world which is known as our nervous system, and related to other material things and processes only if and so far as they, more or less directly, affect, in certain ways, the state of this little bit of matter. To a very large extent the process of development through which this articulate knowledge of the material world is attained, consists in ideal construction. But the first steps must be taken at the perceptual level in order that ideal construction may have a basis from which it can start. For instance, it is at the perceptual stage that we learn to correlate different sensory data, and especially data belonging to different senses, as meaning different attributes of the same thing,—that we learn, for example, to identify an object as apprehended by touch, with the same object as apprehended by sight or hearing or smell.¹ Further, it is at this stage that we come to attach an identical significance to varying sensations not merely as meaning the same thing but the same unchanging attribute of the same thing. An obvious example is the way in which visual presentations, incessantly varying in magnitude and shape, are none the less interpreted as signifying a constant size and shape of the thing seen. But in principle the like holds good for touch which varies with the part of the tactile surface used and also with other conditions. This same problem is raised in another and a less psychological form when we inquire how it is that the determinate objects of sense-perception affect our sensibility only indirectly through a long and complex series of intermediate processes. For it is variation in the intermediate conditions which determines variation in the final sensation, and consequently in the concomitant brain process.²

¹ Cf. chap. viii. of my *Groundwork of Psychology*, pp. 72-77.

² I say "in the final sensation and consequently in the concomitant brain process". I do not say "in the brain process and consequently in the concomitant sensation". I shall presently explain what may appear to be a putting of the cart before the horse.

Questions such as these inevitably confront us whatever may be our views concerning the nature of matter, and the mode in which we perceive it. For, on any view, it remains undeniable that only a very small portion of the material world, as we know it, is or can be given in immediate experience. In the main, our knowledge of it is a thought-construction on the basis of presentational data, involving, at every step, psychological processes of attention, retention, association, reproduction, and productive imagination. As regards my own attempts to grapple with problems of this kind, I am quite prepared to recognise their inadequacy. There are certainly important points which I have omitted or failed to emphasise duly. On the other hand, I cannot see that my general line of procedure is wrong: and I am not prepared to admit that my special explanations are substantially irrelevant or erroneous. These may require to be modified or supplemented; but they do not, as far as I can see, require to be rejected. It may be that I am to be blamed for not having explicitly assigned the fundamental presuppositions regarding the nature of knowledge and reality, which, from my own point of view, underlie my own procedure. But I have to plead in excuse that a text-book of Psychology is generally regarded as an inappropriate place for "metaphysical" discussions of this nature. I have also to urge that in some of my writings which are unnoticed by Mr. Joseph I have done something to supply this deficiency. In my *Analytical Psychology* I have expounded my view of the inseparable correlation of presentation and thought in essentially the same form in which I continue to hold it.¹ Further, since the publication of the *Groundwork*, I have written various papers, bearing, more or less, on the general nature of knowledge, in the *Proceedings of the Aristotelian Society* and elsewhere.² It would be quite unreasonable to expect Mr. Joseph to have gathered together these scattered productions and read them in connexion with each other. All I say is, that if he had done so, he would probably have avoided essential misunderstanding of my fundamental position.

¹ This view is substantially identical with the doctrine of *Inhalt* and *Gegenstand*, which has since been developed by Meinong, Lipps, Witasek and others.

² E.g. "Things and Sensations," *Proceedings of British Academy*, 1905; "Immediacy, Mediacy, and Coherence," *MIND*, vol. xvii., N.S.; "Mr. Bradley's Theory of Judgment," *Aristotelian Proceedings*, 1902-1903; "New Kantianism, as Represented by Dr. Dawes Hicks," *ibid.*, 1905-1906; "Are Presentations Mental or Physical?" *ibid.*, 1909-1910; "The Nature of Conation and Mental Activity," *British Journal of Psychology*,

To meet completely his special criticism, I ought to cover again the whole ground in detail, supplying what I now regard as deficiencies, and rectifying inaccuracies. But I have not time to do this in the present paper. What I have here written will have served its purpose, if it has made clear my general philosophical presuppositions, and if it has shown that these are radically different from those which Mr. Joseph attributes to me, and to psychologists in general.¹ To make my general position still more clear, I shall add in conclusion three more points which seem to me to be involved in it. In the first place, it involves a thorough-going distinction and contrast between matter as it is in itself and matter as it is phenomenally known. Only the extremely partial and fragmentary aspect of matter which existentially enters the consciousness of finite individuals as sensuous presentation or apparition is directly apprehended by them as it is in itself. Our knowledge of the material system as a whole and of its laws is phenomenal; it is a thought-construction on the basis of sense-experience. All that we call "external" or "physical" objects, processes and laws belong to the phenomenal order. On the other hand, sensuous presentations as such do not belong to this order. They are not in phenomenal space which is fully occupied by phenomena, and they do not obey such laws as that of gravitation.

The second point is closely connected with the first. If, as I maintain, the individual has in his own presentation-continuum a partial glimpse of the existence and nature of matter as it is in itself, it would seem to follow that this portion of matter *per se* must be also capable of being phenomenally known to an external observer as a physical object. We are thus confronted with the question: What is the phenomenal counterpart of sense-experience? The answer to this question seems clearly indicated by the apparently unconditional correlation of the existence, nature, and changes of sensuous presentations with a certain system of processes in the brain. The brain, so far as it is implicated in these processes, is identical with our sense-experience as phenomenally known. If this be so, Spinoza is in principle right in regarding the mind as primarily the idea of

1906. I may also refer to my recent paper on "Instinct and Intelligence," *ibid.*, October, 1910.

¹ Really it is a mistake to suppose that psychologists as such have any philosophical principles in common. What I have said in the *Manual* and *Groundwork* about the perception of external objects may be accepted by psychologists who would reject my account of the philosophical position implied; or again, it might be rejected by psychologists approaching closely the type described by Mr. Joseph.

the body, and of other material things only in so far as they affect the body.¹

And Spinoza also supplies the right answer to the objection that we have no immediate awareness of our own brain processes. "We clearly see what is the difference between the idea, for example of Peter, which constitutes the essence of the mind itself of Peter, and the idea of Peter himself which is in another man, for example in Paul. For the former directly manifests the essence of the body of Peter himself, nor does it involve existence so long as Peter exists; the latter, on the other hand, indicates rather the constitution of the body of Paul than the nature of Peter; and therefore so long as Paul's body exists with that constitution, so long will Paul's mind contemplate Peter as present, although he does not exist."²

The third point arises in connexion with the question concerning the relation of sensuous presentations to the mind which experiences them. I have always held with Berkeley that sensuous presentations are sharply contrasted with such states and processes as willing and attention, loving and hating, which belong to the individual subject in his indivisible Unity and Identity. But I have also consistently asserted the other Berkeleyan position that sensations, though they are not, like attending and willing, modes of the individual consciousness as such, are not the less mind-dependent, inasmuch as they exist only in being experienced by some one. I am, therefore, bound to explain how I can assume that the presentation-continuum of the individual is continued beyond itself into a whole of fundamentally like nature which transcends and includes it. The only solution of this problem which I can find is one already suggested by Berkeley, though not developed by him in any coherent way. It is that presentations which do not exist in my mind exist in other minds. Further, it is not enough merely to postulate a collection of finite minds or "monads," even though we permit ourselves to multiply these *ad libitum* like Leibniz and Lotze. For the confluence of the presentational content of our monad with that of others would still ultimately fall outside the experience of the finite individuals. I therefore posit an omnipresent mind as experiencing the whole presentation-continuum which is shared out to finite individuals in partial allotments.

¹ I am throughout leaving out of count our knowledge of other minds, and sensations as experienced by other minds. This requires a separate discussion.

² The quotation is from *Ethics*, Bk. ii., Prop. xvii., Schol. (White and Stirling's translation).

In conclusion, I have to apologise for the extremely egotistical style of this paper. The apparent egotism is not due to any desire on my part to assert or imply originality. Very probably there is nothing in what I have said that is really new. But except in the case of Leibniz, Spinoza, Kant and Lotze, and my own teacher, Dr. Ward,¹ I find it difficult to determine precisely what and how much I owe to others, and to determine wherein precisely I agree with them, and disagree from them. Hence, to avoid complications, I have, for the most part, thought it best to speak as if I were speaking for myself alone.

¹ I would refer to Dr. Ward as the source of everything in my writings which he would not himself disown. But this is a large exception.

II.—THE PHILOSOPHY OF BERGSON.

BY J. SOLOMON.

THE central idea of Bergson's philosophy is as old as Heraclitus, that of an incessant becoming; its peculiar merit is that it leads us to understand far better the principle and the effects of the eternal flux. In the inner world of consciousness we can perceive that flux directly, and to the inner world exclusively Bergson devotes the first of his works, the *Données Immédiates de la Conscience*. But that his latest work, that on Evolution, stands in the closest relation to his earliest Bergson expressly points out in the preface to the latter. For the idea developed in both is that of growth and enrichment. As the bud grows into flower and fruit, so the living body ripens, ages, and throws off fresh living bodies, so species evolve into higher species, so perhaps the world as a whole is ever re-creating itself. But in objective things we see only the effects of the process, in the world of consciousness we see the process itself; we see a psychical mass of elements perhaps separable but never separated always interpenetrating, moving on as a whole towards an adaptation to our present environment—an adaptation which is essentially Action, but which involves also all that we call recognition, knowledge, instinct. Such a consciousness has a history; its life is not a mere filling of successive moments of abstract time with a content now new, now old; it is a movement, in which there is no repetition, no subjection to general laws—a movement individual and irreversible. It has temporal predicates; there is in its life an earlier and a later, length and brevity; but its length is never that of so many moments of abstract time but a certain duration having a fixed 'protensive' quality; the hour-long toothache is not two toothaches each of half an hour's length or sixty minute-toothaches. An old, or rather effete, apophthegm tells us 'History is philosophy teaching by examples'; but 'example' has a meaning, general laws—which is what is here understood by 'philosophy'—have a meaning, only where there is repetition; but history never repeats itself.

Every nation is vitally different from every other nation ; and if a nation ever finds itself again in an old environment, it will react to it, as an individual would, in a different way, just because its growth in the interval has left it no longer the same.

But if living things, conscious or unconscious, with souls or without souls, may correctly be described as in endless, irreversible movement, in which no repetition is possible and no general law can be discerned, are there not inanimate things with no principle of movement, ever repeating themselves—at least while isolated from other influences—and essentially subject to general laws ? How then can the world as a whole, which is largely composed of such things, be conceived as engaged in the same process of continual self-creation that we perhaps rightly attributed to living things ? Does not science exist to confute such fancies ? if it has admittedly up to the present failed to understand the living, has it not grasped general laws which enable us successfully to predict the interactions of the non-living ? does it not find, and even of itself produce, endless repetitions among the phenomena of the non-living ? We do not deny it. But to predict or even to produce is not to explain. In all, even physical, phenomena there is something which science cannot, but happily need not, explain—succession ; if, as Bergson puts it, the melting of sugar in water takes time, there is in some sense a history even to sugar. The dream of science is to discover causes which involve their effects, which *are* their effects ; but if ever the cause were the effect, then there would be no cause, no effect at all.

And this brings us to a second idea ever running through Bergson's work, his depreciation of intelligence, the very faculty exercised in science and in the perception on which science is built. He thus ventures on a 'Theory of Knowledge,' a theory which many thinkers from Lotze to Mr. Prichard in his recent able work on Kant have come to regard as a useless supererogation. But Bergson's theory is very different from Kant's. It is a consequence of his thorough-going belief in evolution, creative evolution of new and higher forms of life. He holds evolution to have taken place on three different lines—the line of Automatism, exhibited in plants ; the line of Instinct, exhibited pre-eminently in the Hymenoptera ; the line of Intelligence, exhibited in the Vertebrates and carried to its highest in Man. At the basis of these modes of evolution, as at the basis of each particular living individual, is a general Life-Force or 'Elan de vie,' ever pushing on to organisations more free and more effec-

tive in dealing with the brute matter of the environment. But because this life-force held suspended in it different tendencies which had to separate as they grew, it ultimately developed itself along divergent lines, achieving at the terminus of each an extraordinary success in the execution of its main purpose, but by the radically different methods of vegetism, instinct, and intelligence; the view, in some form as old as Aristotle and still commonly held, that the vegetal automatism is the original basis on which instinct arises, and that intelligence develops from instinct, or at least that there is some community between the last two, Bergson regards as radically false and disproved by the facts of evolution. We cannot for the present unfold these ideas further. But what is intelligence, what is the characteristic faculty of man, by which he has attained so marvellous a command of his environment? It is something much more definite than a vague power of adaptation. It is the capacity for fabrication, for making out of the inorganic, to some extent even out of the organic, world, *instruments*, themselves inorganic and external to their creator, for the satisfaction of his wants, fire and clothes to keep him warm, a house to keep him dry, fishing-rods and arrows to procure him food. But what is the psychical capacity on which this power rests? It is man's power of *detaching* from the fluent continuum which is absolute reality fixed things or fixed systems, the essence of which—so far as we can or need to determine them—is just that repetition, that obedience to law, which we do not find in the living individual nor perhaps in Nature at all, if taken as a whole. Intelligent action is the action that assumes such fixity, intelligence is just the conscious assumption of it. What we call logical principles and categories of the understanding are just the assumptions, but assumptions now consciously grasped, of a mode of action found to some degree in all vertebrates, but in an infinitely higher degree in man. But that mode of action and therefore those conscious assumptions are the products of evolution; how then can they be the principle of evolution itself? and if animals live and grow in their bodies, their thoughts and character—their souls in short—by a kind of evolution, how can we expect that the intelligence and its categories should explain this life and growth? The seeming absoluteness then of the ideas of the understanding, of natural law, of uniformity, of causation, of unity and identity, of multiplicity, of non-contradiction, is illusory. We men can attain no success except by using them, and where we use them successfully they must be approximately true. But there is the wide domain

of the living in which they meet with no success; to insist on applying them there is merely blindly to practice a natural habit, the mental habit of the human species. The primitive form of such habit is Perception, by which we isolate and are thus able to use single fixed things; the more refined form is physical science, by which we isolate or construct fixed systems. But neither perception nor science gives us the ultimate truth; intelligence is not the final arbiter. It is the great divider, and it trusts as implicitly as the conqueror to the maxim 'divide et impera'. The true motto of the human species is 'Natura non nisi dividendo vincitur'; its conquests are made by the violation, the disorganisation of nature. The more familiar 'Natura non nisi parendo vincitur' is the motto, we shall find, of instinct, of the bee and the ant.

Bergson's *Données* with wonderful sureness and insight shows, as we have said, that the conscious life is a continuous growth, a real whole that changes as a whole, no merely apparent whole in which certain immutable elements, obeying as to their mutual relations immutable laws, effect apparent changes in the whole by reconstructions now here, now there, in its substance. It is no mere succession of precisely definable states, ever repeated with an equal or different intensity, associated with one another or free from such association. A self-conscious mind cannot be this, for "a succession of perceptions is not a perception of succession". Nor can the 'parts' of a mental state be really separate and juxtaposed; we directly feel their interpenetration, the integrity of the soul. The second chapter of the *Données* defends this thesis. The first helps in destroying the crude notion of separable definable mental states by showing that we do not experience the same state in varying degrees of intensity as commonsense and the psycho-physicists suppose; but that the so-called different intensities of a single sensation, effort, sentiment, emotion are really different sensations or emotions altogether.

Let us speak first of the admirable first chapter, a chapter which no one can read without feeling that a new power has arisen in the philosophical world. Intensity is a kind of magnitude, as even Kant acknowledged by his antithesis of intensive and extensive magnitudes. But magnitude is spatial or it is nothing; the greater contains the less, it is the less with something added to it. But who can think of a heat of 90° as a heat of 60° + a heat of 30° ? or of a great joy as a sum of smaller joys? or of a great effort as a sum of smaller efforts? Each sensible 'degree' of heat has its own special quality; and so has each degree of illumination and

of saturation, no less than each shade of colour. What then is that difference which is signified by 'more and less intense'? and why do we identify it with the difference between the large and the small? We must not give the same answer in every case. In sensation the magnitude of the external object, in effort the magnitude of the external movement, no doubt counts for something in our consciousness and gives the appearance of largeness and smallness to the sensation or effort itself. But the profounder explanation of the seemingly various intensities of the same effort, the only explanation of the seemingly various intensities of the same emotion is that the 'intenser' is radically different from the less intense. An intenser joy is not a dilatation of the same joy; it is the coloration of a greater number of elements in our mental life; in its extreme form it makes all our feelings and our perceptions different from what they were. An intense pain, says the psychologist, 'irradiates' to new elements; in fact the irradiation is not a property of the intensity, it is the intensity. A greater effort is not a greater tension of the same part of the body, it is a tension spreading to a greater number of parts. If we extend the arm and slightly bend the first finger without contracting a muscle of the hand, we may feel a considerable expenditure of energy: but this comes from the simultaneous fixation of the muscles of the chest, the closing of the glottis, the active contraction of the respiratory muscles (D. 15-19).

The psycho-physicists then, who profess to measure mental states, build on a rotten foundation. Indeed common sense recoils from the conclusions to which they push its own assumption. Consciousness finds no meaning in that 'minimum increment of sensation' and the equality 'of all such minima' which are the fundamental assumptions of Fechner; nor yet in an equality of the differences between two pairs of sensations, on which the experiments of Delboeuf rest (D. 42-4).

But, when we have granted the interpenetration of all the elements of consciousness at a single moment, there still remains the doctrine lightly dismissed by us on page 18, that, after all, the conscious life is a succession, and so consists of real parts really juxtaposed, only not in space but in time. Does not Kant say that Time is the form of inner perception, as Space of Outer Perception? Now against this view Bergson never ceases to protest. His crusade against abstract Time is in fact one phase of his fundamental doctrine, as the constant self-creation of living things—perhaps even of the whole universe,—or his protests against the inadequateness

of intelligence are others. For to postulate abstract time is to break up the continuous process which is the essence of reality into an infinite number of stationary parts each of which corresponds to or occurs in 'a moment of time'. Such a comminution the intelligence makes and, as the characteristic and within limits the successful method of human action, is justified in making. But in doing so it gets rid of the continuous process of reality altogether and so far falsifies reality. And what does it substitute for it? There is a real concrete time, part of things themselves, the duration—felt by the living, unfelt by the inanimate—which belongs to their changes. But intelligence substitutes for this an abstract time, an homogeneous measurable medium, a conception fraught with endless self-contradiction. For it is at once an ever disappearing and yet a persistent reality, instantaneous and yet eternal, *eikός κινητού τοῦ άιώνος*, as Plato says in the *Timaeus*. But this monster is really but a 'bastard' of space, an application of space to a region where space is inapplicable. For separateness, divisibility, numerosity, number itself are conceivable only where space, real or ideal, is presupposed. If the things we count are merely in time, then each passes away as it is noted; to make a whole, *i.e.* to be really counted, they must *remain*, *i.e.* they must all be in one space, real or ideal. We do not—to use Bergson's illustration—count the men in a regiment when we call the roll of it.

That abstract time is merely space over again is shown by our imagining it as a line. That the image is unworkable appears as soon as we have to speak of 'the movement of time'. We have to add to our line an object moving uniformly along it. In fact when we assign to a process a certain length of time we really mean that the process ends simultaneously with the arrival of the standard object at a certain point on the line, its movement having commenced simultaneously with the commencement of the process. And this is all that our measurements of time tell us, the simultaneities between one process and another, the standard process being chosen for its uniformity, and the ultimate test of its uniformity being nothing but this, that we *feel* it to be uniform, whether it be the movement of the sun in the sky, or that of a pendulum. Of a mysterious monster, time, whose essence it is to move uniformly, the man of science knows nothing. Of movement, then, itself science tells us nothing, but only of simultaneities between different movements. But these are just what for the purposes of practice we really want to know. Suppose everything moved twice

as fast as at present, our limbs included ; our feelings would be very different ; but our actions would need no alteration ; nor would our mathematical 'equations of motion'. The paradoxes of Zeno—whether obviously absurd as 'the flying arrow rests,' 'a time is double itself,' or plausible as that of Achilles and the tortoise—all rest on the identification of Movement itself with the line traversed by it. Because that is divisible as we please, it is assumed that the movement is so : and we placidly take for granted that Achilles' movement is fairly represented by steps taken as and when the tortoise takes its steps, only ten times, say, as long. Bergson recurs often to these paradoxes.

But now, says Bergson in chapter iii., determinists and libertarians wage a contest over our liberty, endless, because both take that view of conscious life which we have already refuted. If our life were merely a succession of 'moments' at each of which was to be found an aggregate of distinct tendencies each of a given strength, then it seems impossible to deny that the actions performed would be fatally determined. But this is the view of intelligence, analysing after its usual fashion a *given* or *made* whole ; it is retrospection over our past. But living is not retrospection—except possibly in morbid cases, where the spring of life is broken, the man feels himself a prisoner of his past, and asks despairingly, 'What else can such a being as I do?' Knowledge looks backward, it sees a road traversed ; life looks forward, it makes a road. When we have to act, we do not feel ourselves a mere collection of tendencies of definite strength ; nay, as we have shown, the very idea of 'the strength' of a tendency is a false one ; we feel, as we are making up our mind, that a particular tendency is now less, now more absorbing. It is only the outside spectator or ourselves, when the action is over, that can map our soul into tendencies and assign each a definite strength. Ultimately the determinist's argument is 'I cannot see how I could have acted otherwise'—which is an attitude of retrospection, not of living. But the libertarian is just as much retrospective, just as ignorant of the real movement of life. Only, looking back to a point farther back than the determinist, to a point preceding the movement which issued in the present act, he says 'I see that I could have acted otherwise ; I do not see anything that forced me to act as I have done'.

But conscious life is found only in connexion with living body. Is it in such dependence on the latter as will force us to retract the view we have given of it above? What is a living body, and what does it do? Is it essentially the same

as inanimate matter, only wrought into an organized individual where every part tends to serve every other? or is it some entirely new substance? These are the questions—biological, psychological, metaphysical—considered in *Matière et Mémoire*. Its answer is that even where the conscious life seems most dependent on the body, in perception and memory, its life is yet essentially spiritual. A life-force, essentially such as we have recognized in the conscious life, has been gradually insinuating itself into matter, adapting matter more and more precisely and comprehensively to become the organ of its further action. If it has become imprisoned in the living body, it has at least made its prison-house to suit itself.

The living body, say of man, perceives, feels, and acts upon the bodies that surround it. Its action on them presents no special difficulty, it is just one case of the action of matter on matter. But what of its perception? is that the converse of its action, is it the action of the surrounding matter on the human body? In that case the action of matter on matter would produce something entirely novel and mysterious, a representation of the agent. The materialist boldly says that it does; that, in addition to the material effect on nerves and brain, there is further produced in the latter a shadow—surely a most inappropriate name—of the material effect, an extra or epi-phenomenon, powerless as all shadows are, and in no way accounting for anything that follows. Common-sense, repelled by this conclusion, while taking perception to be in the first place a material action on the brain, supposes its effect on the brain to be translated into a state or phase of the immaterial mind, a representation of the external object, or—as the idealists would say—something out of which the external object is constructed. But the brain is just one part of the general material system and connected with the rest by physical laws; if they are images, so is the brain; if the brain is real, so are they. Materialism, common-sense, idealism, however much they differ, agree in the impossible postulate that the part somehow contains the whole.

Bergson's view is very different. He holds that life is action, adaptation, utilisation, that perception is 'an annex to action,' practical not contemplative, and possible therefore only in relation to the present, which alone acts and can be acted on. Our elaborate nervous system is only an immense complication by successive differentiation and dissociation of the formless amoeba, in whose uniform contractility and excitability perception and action are fused and indistinguish-

able, in which "touch is at once active and passive, and the instrument of perception is also a means of defence". With us they seem separated; perception and action seem two wholly different kinds of consciousness; and the bodily organs of each seem not less separate. But let us assume—what alone seems reasonable—that in us, as in the amoeba, movement is given to the body from the external and returned by it to the external, only by a far greater variety of routes, since in us endless motor nerves *can* be connected in 'the great telephone exchange' of the brain with endless sensory nerves. The question then remains—what determines the actual connexion, what determines the specific route taken? Bergson answers, Spirit, the Life whose principle is adaptation, utilisation. Whenever we intelligently act, a question has been put to the motor activity and answered; but the same should be said whenever we perceive. All perception is nascent action, action ready to be executed but not yet executed; choice has taken place, but execution can be postponed. Hence in our reflex re-actions—say of blinking at light—there is no perception, because execution is immediate, and the act is not chosen but necessary; hence in the amoeba perception is fused in action, because the amoeba is sensitive only to what is in contact with it and its re-action cannot be postponed, while the simplicity of its system allows it no choice of routes for its re-action. But Man is sensible to the distant and takes an active attitude towards it before execution is absolutely necessary, an attitude in which there is an element of choice. This attitude is perception itself. Only in this way can the variability in our perception of the same object be understood; and in a sense Bergson would accept Plato's view that perception does not give knowledge. But none the more does he accept the idealistic view that perception is a merely subjective condition, a 'hallucination vraie,' from which external objects are constructed by a mysterious 'projection'. The perception gives the real, the external, but only so much of it as *may* affect us and be affected by us; and this awakens a consciousness in us just because of our freedom of action in respect to it. So far as its effects on us and our consequent movement are not merely possible but actual and necessarily determined by physical laws, we may have sensation proper, a truly subjective state; but perceive we do not. We feel, say, an increasing heat; we do not perceive the fire that causes it. True perception is the reflexion thrown by our freedom on that which awakens it to action. But this reflexion is no mere image in us of a thing without us. If

we must call it an 'image,' it is at least no more an image than what the most thorough-going materialism would call the ultimate elements of the world, matter and movement. If this language implies 'relativity,' it is only the relativity defined in what Mill (*Hamilton*, ch. ii.) justly calls 'the insignificant truisim,' that 'our knowledge is relative to us inasmuch as it is we that know it'. We must only add that we are speaking of *pure* perception, entirely unqualified by memory, which of course adds a personal element, as when one who has had experience of ice 'perceives' in merely seeing it, its coldness—a quality entirely invisible to one unfamiliar with ice. And memory, if Bergson is right, may qualify our perception in a different way. For the rhythm of our life may be entirely different from that of the object; a moment of our life may contain many moments of the object's; thus what is for us an instantaneous perception of red light corresponds to 400 billion vibrations in the object; in fact all 'the sensible qualities' of objects seem to be perceptions into which an enormous number of the object's moments are contracted, seem in short to involve a memory. But if for the moment we neglect this, we may say that 'pure perception' is an instantaneous and impersonal contact with real objects. We feel it at first as impersonal; it is only later that we discover among the images it gives one—that of our own body, namely—which remains invariable, while all the others vary with change in our body's position. But common-sense, when it discovers this, does not fly to the conclusion that all our perceptions are merely subjective; and it is only a false logic that has forced philosophers to do so. Matter then is something including and greater than our perceptions; it is not something intrinsically different from them.

Finally, we said above (p. 17) that man's characteristic power, the intelligence, is shown in 'detaching from the fluent continuum which is absolute reality fixed things'. Obviously perception does this; and if our account of the nature of perception is correct, this is what we should expect it to do. But since the power of man is so much greater than that of animals, that of the adult so much greater than that of the child, we should expect 'the fixed things' which each detaches from the continuum to be very different. That they are so is a commonplace to all who have observed children in the open air. 'A slight ridge,' says Sir G. Trevelyan in his delightful account of Macaulay's boyhood, '*the very existence of which no one above eight years old would notice*, was dignified with the title of the Alps'. 'Chaque

être,' says Bergson (*E.C.*, 396, 7), 'décompose le monde matériel selon les lignes mêmes que son action y doit suivre.' Scientific man marks off not things but systems of things; or divides things to any extent he may find feasible or desirable. This potentiality of divisibility is what he expresses in the conception of Space, which is just the 'schema' of divisibility, not sensible but 'a form of sensibility'; only not of universal sensibility but only of that of the physicist or geometer.

Perception then involves our own body and external bodies; it is the nascent adaptive action of the former on the latter. But what are we to say of memory and its images? As dispensing with an external object it might seem purely spiritual. But it depends on previous perceptions, it seems even to common-sense to store them 'in our heads,' and it is certainly affected by damage to the brain. We cannot then doubt that it is somehow connected with matter, if not altogether material. And yet the storehouse theory of memory has most serious difficulties. For why should the contents of the storehouse ever re-appear? and why should they re-appear with that modification that makes us regard them as *past*? if they went in perceptions, why should they come out something else? These are further problems of *Matière et Mémoire*. Bergson concludes, as we shall see, that memory can only be explained from the spiritual part of man; that all the phenomena of it, normal and pathological, are compatible with such a theory only. The problem has an importance as great for metaphysics as for psychology. For if memory can be materialised, then the very fortress of thought has been captured by the materialist, since the connexion of thinking with memory is obvious, and is in fact implied in most languages; to 'think of,' in English, is synonymous with 'to recall'.

It has been commonly held since Hume that memory-images are but fainter perception-images. The great objection to this is that the former are felt as past, the latter as present and acting. Bergson accordingly holds that the first condition of the memory-image is, that *d'emblée*, from the outset, we should by a purely mental act, pure memory, place ourselves in thought in the past; out of this attitude there grow up, he holds, nebulous at first but ever more distinct, images becoming constantly more and more like those of perception; but they must be felt to have their roots in the past, and that is why they are felt as past.

Yet there is undoubtedly a close approximation between the memory- and the perception-image, close enough to make

Hume's view seem very plausible; and this approximation proceeds not merely from the side of memory, but from the side of perception as well. For when we 'see' the coldness of ice or the heat of steaming water (p. 24), we have a perception which is at bottom a memory. And so long as we take a merely static view of the memory-and the perception-image, we may like Prof. Stout—perhaps the first among living English psychologists—protest against the identification of the two, but we are powerless to resist it. Bergson shows us the root of the error. It lies in this, that our understanding, as we said on page 17, by its fixed habit picks out the stable from the fluid, notes the end and ignores the process in which it is a stage. We have indeed the words 'process' or 'movement'; but we can make no use of them for scientific determination; they remain mere abstractions, reminding us of the essential feature of our conscious life and probably of all life, but incapable of use in calculation, production, or prediction. And yet they express the ultimate reality. And we see this in our present example. We try to define the memory-image and entirely fail to distinguish it from the perception-image, in spite of all the protests of our consciousness. But the radical difference between them is in the processes in which they are merely termini; and the process ending in the memory-image is one, as we have already said shortly and shall presently show in more detail, that starts in the mind, though it may fuse in an active perception which undoubtedly involves the body.

Will it be said that we have images, due to past experience, but not 'memory-images,' not professing to be copies of the past; and that these by a sort of attraction to the perception—we remember Hume's idea that 'attraction' might be the great principle of the mental as of the physical world—fuse or identify themselves with the perception and thus enrich it or make it more familiar to us? But in fact what we have pointed out is that a 'mere image' is a dried, inert abstraction; how could such an image accept as the same what we call the same word but what is really a multitude of different sounds according to the pitch or dialect in which it is pronounced? or how is it that the same sound 'attracts' quite different images according to the context in which it occurs? But the fact is that an image is a stage in a process, and we should not speak of 'the image' as if it were something absolutely definite. In fact it never is so. Not merely have different people different powers of 'visualisation,' *i.e.* they attach different visual images to the same word, but each of us has different images according to the

needs of the occasion; the memories that recur even of the same experience will be of different degrees of particularity; or, as Bergson puts it, 'Memory has several planes'. At its most diffused or detailed plane it is the memory of the dreamer, who revels in the past but never applies it; at its narrowest plane it is the memory of the man of action who puts himself in the past merely to obtain the general extract of it that will fuse with his actual perception. We are learning to make a distinction unknown to our fathers between 'idea' and 'image,' to see that an 'idea' at least is a process, and that we have 'ideas' of much—say of the English Constitution—of which we could not have 'images'. We have only to proceed further on this path to see that the image itself is a creation prompted by the same purposes as the idea, varying therefore with that purpose and never twice the same even in the same person. Such phrases as a 'clear idea' or a 'perfect image' are misleading, there is no such absolute ideal for either image or idea as such phrases set up; each is a creation for a purpose and each is perfect so far as it fulfils the purpose. The thinkers who speak of perfect and imperfect images are just those who speak of a store-house of images. But is it a perfect or an imperfect image that is stored there? if perfect, how does it ever come out imperfect? if imperfect, how does it ever come out perfect? But there are no such stored images, fetched out or awakened by the act of perception. Not the perception elicits the image, but the image comes out to meet and fuse with the perception as the whole self struggles to adapt itself to the present environment.

To make this idea clearer Bergson takes the case of our apprehension of spoken words. The same case has been taken by Prof. Stout in his excellent chapter on 'Implicit Apprehension' (*Analytic Psychology*, i., 78-96), and his conclusions, though more vaguely expressed, agree with Bergson's. He, too, sees that the view that speech is apprehended by the hearer through the resuscitation in him by each word of a corresponding image is contradicted by experience; that 'images' rarely arise in him at all, but that a vague apprehension of the speaker's total drift first emerges and is then defined by, but in its own way also colours and helps to fix the relations of, the words actually heard. We know that in the development of language the sentence precedes the word; that the first step in an infant's apprehension of language is to feel as a whole what the speaker means, or rather what he wants. So in listening the hearer's whole personality reacts to adapt itself to the meaning, the purpose of the speaker; but such reaction, like thought generally, is a move-

ment, and therefore not to be represented by 'images' which are *things* (*Matière*, 133). Common experience shows and experiments have definitely proved (*ib.*, 106) that there is a vast amount of divination in our understanding not merely of the 'winged' word but even of *litera scripta*. We ourselves once thought we saw a tradesman's name twice stamped in consecutive lines above his shop-front; the fact was that there was but one set of letters, but a crack extended across them from the bottom left hand to the top right hand corner. Such 'divination,' Bergson justly contends, is fatal to the mechanical theory of memory. Bergson's superiority is that he shows clearly what does occur as well as what is falsely supposed to occur, while Prof. Stout is content with the complementary metaphors of 'image' and 'imageless fringe'.

The Past does not leave behind a deposit of images in 'imaginative brain-centres,' nor is an 'apperceptive centre' needed to re-awaken them. But we may assume that the past experiences of a living being are never lost (Ball, ap. *Matière*, 168 note). They are still present with us in our character; why then should they be incapable of re-appearing as representations? In pathological cases they have been found to re-appear in unexpected, even in startling ways. But into our normal consciousness, 'orientated' as it is by the very constitution of the sensori-motor nervous system towards action, they will not for all their forward pressure gain admission except they promote action, except they help us to 'answer the question put to our motor activity'. Just as far as they are impotent for this we are unconscious of them. But it is an empty logic that would deny the existence of 'unconscious mental states,' not less empty than the logic of Berkeley that would deny the existence of unperceived things. Common-sense repels the latter doctrine because it has to admit a possible efficacy in regions of space outside that which we are observing; it accepts the former because it sees no possible efficacy in the region of time outside the present. But we have seen that the past experience shows its efficacy in the mould it has given to our present *character*; it moulds also our present *perception* in the shape of such 'images' from it as will insert themselves in our present perceived environment, as when we see the coldness as well as the blueness of the ice-block in the glacier we are crossing and shrink from contact with it; or when the sight of clouds makes us think of rain and look round for our umbrella; or when a present mood maintains and as it were justifies itself by admitting images of a certain kind only,

those of dangers when we are depressed, those of pleasures when we are happy. This is the reason why in our normal states the revived images always show the characters of 'resemblance' and 'contiguity'—a truth which 'the laws of Association' invert in affirming that resemblance and contiguity effect the revival. The fact is that it is only the resembling and contiguous that fit into and illumine the present situation; it is from it and as part of it that they get that vivacity which makes us speak of them as 'revived'. In pathological conditions past experiences crowd back on us in defiance of the laws of Association, apparently because of a relaxation of the ordinary connexion between the afferent and efferent parts of the nervous system; the useless recollection can no longer be kept from intruding.

The doctrine of a physical storage of 'images,' Bergson points out, is largely due to a confusion between the motor or organic memory, which re-acts to stimulus with appropriate bodily movement, and the spontaneous memory, which gives us images out of the past. The former is a bodily habit created by repeated effort to perform a certain act, whether the act is to recite without book a dozen lines of Virgil, to play a difficult musical phrase on a piano, to ride a bicycle. The repetition creates in the nervous system a new mechanism which functions of itself as soon as started. There is a real lodgment in a real material. But the image of a past experience does not recur to us by such effort; for the experience being unique cannot be repeated. It just survives, but unconsciously: what consciously revives it we have just now endeavoured to state. As there are two kinds of memory, so there are two kinds of recognition—motor recognition when, without images from the past, we simply make appropriate use of the object or at least feel it to be familiar; spontaneous or intelligent recognition, where images from the past enter and incorporate themselves with and give their character to the object perceived. Attention is the act that facilitates intelligent recognition. It cannot do so—as both Bergson and Stout urge—by the concentration of some mysterious inner light on the object. On the other hand, neither is it reducible to those physical tensions—usually called the 'fixation of attention'—which we undoubtedly create and experience. It is a mental act which prompts such physical acts or attitudes as will bar the entrance of useless images and facilitate the entrance of useful ones. And thus in full accordance with his general theory Bergson can explain what Stout cannot, how attention is at once physical and spiritual.

On the defects of memory and their organic conditions we have no space to follow Bergson through his learned and acute discussion. The defects, which are of such extraordinary variety that the most recent pathologists have come to despair of conceiving any physical theory for them at all (*Matière*, 132), cannot be explained as those who find in the brain a storehouse of images would fain explain them, *viz.* by the lesion of some special brain-centre. Bain thought, logically enough, that the damaged brain-centre must be the centre that functioned in the original perception (*Matière*, 134); but patients who have lost their visual or auditory images can still see or hear. If to account for this we assume special 'imaginative centres,' the facts force us to assume an ever larger number of these, and an ever-increasing number of connexions between them. But give up with Bergson the theory that the brain is a seat of perceptions or images. If only there is such a lesion in the nervous system that the physical impressions received from without cannot be prolonged into the physical acts that usually complete them, then we can no longer name or use the object present to our senses; motor-memory miscarries. On the other hand, imagine such a lesion that we become incapable of making the physical movements needed, as we have seen, for effective attention, then the images from the past that should incorporate themselves in, and so define, the present object to us fail to return. And this gives an intelligible reason why a particular sort of memory should be weakened without being altogether abolished; why, for instance, the memory for names should vanish not at once but step by step, that for proper names vanishing first, that for common nouns next, that for verbs last, just because the *actions* into which these fit themselves, being the simplest, are the last to become impracticable to the patient (*Matière*, 127). 'The supposed destruction of memories is only the interruption of a continuous process by which memory actualises itself' (*Matière*, 126).

The psychological results of the *Données* and the *Matière* need not be further insisted on. Their metaphysical result is to dethrone at once materialism and idealism, the former by establishing the reality of mind or life, the latter by establishing the reality of matter, of movement, and, in a measure, even of the sensible qualities of matter. But they show that we are not to conceive matter as merely possessing shape, infinitely divisible solidity, a capacity for being translated without change, so that no variation is possible to it except in the form, size, and mutual distances of its parts.

This is the reduction of it effected by our intelligence; this makes it amenable to geometry, this holds before the physicist the illusive dream of a day when it will be possible to construct *a priori* all future states of the universe. But we have learnt the uses and limits of intelligence, and can no longer be misled by it. To us matter is essentially that to which the life-force can give the diversity and intricacy of structure that fit it to be the precise and adequate organ of the life-impulse itself.

What novelty beyond their mere elaboration does the longest and to readers untrained in philosophy the most attractive of Bergson's works—*L'Évolution Créatrice*—add to these ideas? It connects them with the doctrine of the evolution of species. It shows that the facts of this evolution are the strongest confirmation of Bergson's theory of vital change; the strongest refutation of a mechanical or a finalistic theory, even though the latter takes the plausible form of Vitalism, which finds a principle of harmonious self-maintenance in each living body. It shows that these same facts confirm Bergson's theory of intelligence and its restriction to a special sphere, and so establish a real separation, unknown to other systems, between philosophy and science.

That the evolution of species is a fact Bergson takes leave to assume. Some may still think it doubtful whether it proceeds by literal filiation. But the relations of living forms shown by the naturalist's classifications, the facts of embryological change, the chronological succession of forms disclosed by palaeontology, show that there is a real passage from less to more evolved forms, whether effected by filiation or otherwise. Can, then, this fact be explained by either a mechanical or a finalistic theory? But first let us make a preliminary remark on theories of these two kinds.

It is obvious that a mechanical theory must deny that genuine creation, that incessant uprising of the new and unpredictable which to Bergson is the essence of the universe. For that theory requires, in the well-known phrases once more cited by Bergson from Laplace, Du Bois Reymond, and Huxley, that a complete knowledge of the world at any one time would involve to a superhuman intelligence a knowledge of it at any later time; it involves the view that 'all is given,' the view—to use W. James's phrase—of 'a block-universe'. But a finalistic theory makes the very same postulate. The superhuman intelligence would see the final shape that the Universe will assume, the tendencies that are making for the creation of that shape. And the common

blot in both theories is their anthropomorphism. Man can only create where he has unchanging things for his materials and respects their unchanging laws; and this same necessity is supposed by both theories to bind nature as well: 'I cannot,' says Lord Kelvin somewhere, 'be satisfied that I have explained any natural process, unless I can construct a working model of it'. The finalistic theory adds that nature further imitates man by having in its creations the idea of some plan which an ingenious utilisation of its unchanging materials will realise. But the characteristic action of man and the psychical process which underlies it, intelligence, is, like the human species itself, the *product* of evolution; how then can it be its *principle*? The fact is that we being familiar with only one kind of creation tend to look for it everywhere; if our assumption is wrong, we are left in darkness. But that is no reason for holding the assumption to be right, and we have just seen that there is the strongest possible reason for holding it to be wrong.

Nor will the detailed facts of evolution fit either into a mechanical or a finalistic theory; neither into Darwinism with its theory of accidental, transmissible variations in the germ, whether small or, as Bateson and De Vries hold, large and multiple; nor into the orthogenesis of Eimer, who holds that external influences adapt the organism to themselves by effecting changes in it always in the same constant direction; nor into the finalistic views whether of the neo-Lamarckians who make evolution the result of effort, or of Reinke and Driesche who affirm the doctrine of Vitalism and, in Leibnizian language, make a 'dominant entelechy' direct each living body to its own preservation. One striking fact brought forward by Bergson tests with fatal effect the soundness of each theory—the formation namely in organisms widely divergent of identical complex organs with an identical function, e.g. of the eye in Vertebrates and in a certain Mollusc (*Pecten*). To suppose with the Darwinians that the accumulation of variations can effect two such results is to suppose, not that two different roads may bring two independent travellers to the same point, but that two independent travellers might follow paths of identical form, though that form were composed of innumerable zigzags. Eimer's theory owes its plausibility to the ambiguity of the word 'adaptation'. The beaker into which water or any fluid is poured determines, no doubt, the form they all take. But if such insertion is to be called 'adaptation,' it is at least wholly different from the adaptation by which a living thing moulds itself to take the greatest advantage from its surroundings.

The adaptation may begin in a purely physical way; it may well be that light created the rudimentary eye, the pigmented spot. But so—to use Bergson's brilliant illustration—the orator begins by adopting the passions of the crowd he addresses, but only that in the end he may direct them, and this end he effects. Will it be said that the perfect eye is not an adaptation created to profit by the light? that it is simply created and has, when created, the power of seeing what light illuminates? But the human eye co-operates with and is adapted to the entire sensori-motor system with the sense-organs and the muscles and bones that are its appendages. It is in conjunction with them that it forms an instrument for useful action in an illuminated world. But who will pretend that all these systems were created by the direct action of light, which Eimer makes the sufficient cause of the eye and its function?

So much for mechanical explanations. The finalistic theory would either make the whole universe harmonious—a thesis few have cared to maintain since Leibniz' optimism was exploded by the ridicule of Voltaire; or if we apply it, as Vitalism applies it, not to the universe as a whole but only to those fragments of it which we call organic beings, the physiology of one such being—say man—is enough to show that there is in them no such absolute internal harmony; even in our body the parts live for themselves and some will antagonise the welfare of the whole or even destroy it.

But is not Bergson's own theory of adaptive self-creation a kind of finalism? has not such creation a purpose? No, if by purpose we mean a fixed end; yes, if by purpose we mean a conscious tendency. We must assume an original Life-Force or tendency, holding in equilibrium many tendencies, which presently, as they grow, split off and are dissociated. The child fascinates us by the many possibilities we see in him; as he grows up, one set alone realises itself and the rest are abandoned. But the Life-Force need abandon nothing; it need not evolve in a single eternal individual, nor even in a single series of individuals; it can give rise to many series ever diverging. Yet as all had a single source, even the strongest resemblances between members of different series need not surprise us; Pecten and Homo may have the same function of vision. But how did they come by the same apparatus? Bergson's answer is that the real creation of the Life-Force is the function, not the apparatus. It is our anthropomorphic bias that insists on treating the function as a consequence of the apparatus. Suppose we thrust our hand and arm into a mass of iron filings; when the action

is completed, the filings have assumed a certain form; but has that form any resemblance to our act? When we take the structure of the eye as accounting for its function, are we not acting precisely as one might who analysed and geometrised the complex form assumed by the filings and hoped in the end thus to account for it with no thought of the act which really created it?

That life, then, should develop along different lines, is what the view of Bergson would lead us to expect. Common-sense declares that there are such different lines. Does science contradict it? does science agree with Aristotle that the animal life contains the vegetable, the human the animal? Evolutionary science answers emphatically, No. Doubtless the vegetative tendency may be found in animals and man; doubtless instinctive function, so marvellously developed in bees, is found in man. And if the Life-Force is one, if all life started in formless protoplasm, there is nothing to surprise us in such admixture of tendencies. But look at the prevailing tendency in each realm, the tendency that is found to accentuate itself with evolutionary progress in that realm. The vegetable is stationary, ever nourishing itself on the circumambient air from which by its chlorophyllian function it extracts the carbon it needs, storing energy continuously, giving it out continuously. The animal feeds ultimately on the plant, stores its energy and gives out its energy discontinuously, acts and moves—though in general instinctively, in a way fixed by its organization. Man too stores and gives out energy discontinuously, acts and moves, but with conscious intelligence. True, there are plants that move, climb, catch insects and eat them; but this is not the line along which plant-evolution proceeds; it is not the more but the less evolved, or the starved or degenerate, plants that thus act. At the other end of the scale we find in man a tendency to vegetate; but this is not the line of his evolution; it marks a residuum from the life-principle, which the more active of the species have cast away. Instinct again we find in the vertebrates and even in man. But the evolutionary line, in which it is the dominant principle, is that which culminates in the hymenoptera, bees, ants, wasps. In them it is that we see almost pure the nature of instinct. Embedded in the structure of their bodies, it provides them with an adaptation to the conditions of their lives more perfect than the finest intelligence could create; it endows these minute insects with a knowledge and adroitness such as one who was at once a learned entomologist and a skilled surgeon could scarcely rival. But it is strictly limited to special

things and special aspects of them, like the infant's knowledge of the nurse's breast and its power to suck. It is bound up with the physical organization. In fact between the instinct that uses the organization and the process that creates it we find it impossible to draw the line.

Instinct and intelligence supply, says Bergson, 'equally elegant solutions of the same problem'. But they are profoundly different; instinct is not 'lapsed intelligence,' nor intelligence a complex of instincts. Intelligence aims at fabrication; it needs for its material the unchanging, the reproducible at all times and places; ultimately, it deals not with special *things* but with special *relations*. Tentatively exploring it finds the material suited to it; this material is the non-living. Instinct does not fabricate, it uses; or if it constructs, its work is not one in which each part finds itself co-operating with other parts naturally indifferent to it, but an organic whole. It knows by a sort of 'sympathy' the things it deals with; but it knows nothing *about* them, from which it could infer their behaviour in other relations. Therefore instinct knows, or at least can handle, the living. Man can only do so, so far as he possesses a similar instinct; the more he applies in this field the dissecting and reconstructing method of his intelligence, the more completely he fails. In these days when we find good and formative teachers as rare as ever, but 'text-books of Pædagogy' thick as leaves in Vallombrosa, and teachers of Pædagogy—who have either never taught or failed as teachers—more numerous still, it is well to call attention to the strong words of Bergson (*E.C.*, 179): 'the intelligence, so adroit at managing the inert, shows its clumsiness as soon as it touches the living. The history of Hygiene and Pedagogy could say much on this point. When one reflects on the urgent and capital interest we have in the preservation of our bodies and the elevation of our souls, on the special facilities granted to each of us for incessant experiment, and the palpable loss which is the price of insufficiency in our medical and pedagogical practice, one remains astounded at the grossness and persistence of their blunders.'

The intelligence in fact is nowhere fully at home except with the homogeneous, the unchanging, the merely quantitative. In Geometry, in the Theory of Numbers, it can make endless discoveries, but of identities only, never of causes and effects. That one thing should change into another, that one thing should cause another, is to the understanding an absurdity. It cannot fully grasp even inanimate nature; and when it seeks in what we call 'Inductive Logic'—though

so far as it is not a pure Methodology it is simply bad Metaphysics—to give an intelligible idea of causation, it simply flounders or contradicts itself. In dealing with life it is still more at fault, for life is an eternal creation of novelties. Bergson has noticed this in the preface to his *Évolution*: 'one would be much puzzled,' says he, 'to cite a single biological discovery due to pure reasoning; and in general when experience has ended by showing us how life proceeds to obtain a certain result, we find that its manner of operating is precisely one of which we should never have thought'. Those who so glibly vouch 'a philosophy of history' would probably be less confident if they knew more of the details of history.

A most interesting part of *Évolution Créatrice* is the comparison of ancient and modern science and philosophy. The founders of Greek science did their best to ignore change; the reality to them consisted in immutable Forms, a degradation of which occurred in the perceived world by an admixture with an indefinable somewhat, which Plato called 'the Nothing' and Aristotle 'Matter'. And as multiplicity was as inexplicable as mutability, the Forms themselves were regarded as logical emanations from one highest Form. Space and time were not realities at all. The various Forms were the subject-matter of the sciences, the unity of those Forms of philosophy. The value of such science may be seen from the Aristotelian physics with its assumption of the two great Forms of 'gravity' and 'levity,' a physics as arbitrary as it is vague and incapable of development. The fruitful modern physics that begins with Galileo dreamt of no such essential forms. Instead of conceiving that 'heavy' bodies had a nature that was realised when they reached the earth (*cf.* the quotation from *de Caelo*, 310 a, 34 in *E.C.*, 248 n.), and 'light' bodies the contrary, the new science gave no prerogative position to the terminus of the movement as though it were a sort of immanent purpose, but set itself to determine the movement by determining the place of the body at *any* moment of time, which—as we have seen—means determining the correspondences between its place and those of a body moving uniformly. Galilean science could no more 'explain' the movement than Aristotelian; but it saw what could be ascertained and what it was alone of value to ascertain. But then, as Bergson points out, the moderns, while throwing over the ancient science, virtually retained under ever-increasing difficulties the ancient metaphysics, and this from no accidental cause, but because that metaphysics is just the natural metaphysics of the intelligence. For the character-

istic function and action of the human species demand self-identical, persistent objects with constant mutual relations ; human language can express nothing else. That modern science, while recognising movement as the very nature of things, should in its calculations ignore the movement itself, content to seize the line along which it travels and to define positions in it, has nothing surprising in it. Only so could movement become a subject for quantitative determination, for science, in fact, at all. But that men familiar with a science that implied the reality of movement should yet construct world-systems independent of it—as Spinoza and Leibniz, and later Fichte and Hegel did—is truly surprising, till we recollect the bias given by the nature of intelligence. But to intelligence we must add intuition, what instinct might be if it could widen, and become conscious of, itself. Such an intuition we have in our own conscious life, where we not merely enact a genuinely creative process, but see, or at least feel, it. And the business of philosophy is just to press this element of intuition, both because of its superior importance and because it is just what Science does not use and cannot even recognise. Intuition is the vital element in every philosopher, not the dialectic of the intelligence by which he tests it or the system of concepts in which he seeks to embody and communicate it. Nay, ‘the very effort,’ says Bergson (*E.C.*, 259), ‘by which we connect ideas with ideas makes the intuition vanish which the ideas proposed permanently to store for us’. We are reminded of Arnold’s view of ‘the Progress of Poesy’ :—

The man mature with labour chops
For the bright stream a channel grand,
And sees not that the sacred drops
Are lost and vanished out of hand.

On the other hand, a philosophy which accepts all that science would give it and asks for no more than to be allowed to systematise it and lay down its principles will find nothing left for it ; with the facts of science it accepts the principles of science and a metaphysic, escape from which it has deliberately barred.

Intelligence, says Bergson in a happy illustration, gives us such a view of life as the cinematograph. There we seem to have the movement of life itself ; but what we really have is a very large number of instantaneous views, each stationary ; the apparent movement is not their movement but only that of the screen on which they are thrown. Such is our science ; the ‘views’ it gives of the unending process of

nature may be made indefinitely numerous; of the movement we have not—as for practical purposes we do not need to have—any idea. Our knowledge is external, superficial; but it is practical, it is what we need for action, it succeeds.

The ‘general law’ of the logical text-books is a fusion—by ‘endosmose,’ as Bergson would say—of the ‘law’ of modern science and the ‘genus’ (*Form, Species*) of Aristotelian. The two ideas are quite different, though the modern logician—even, we think, so recent and acute a writer as Dr. Mellone—often tries to persuade himself that modern science no less than Aristotelian is a research for ‘Real Kinds’. But ‘real kinds’ imply a negation of the reality of movement; *they* are the one reality, permanent things that maintain themselves generation after generation. Modern science takes movement and change for the ultimate fact and seeks to discover the laws of its stages, that is the correspondences among those stages; it gives relations; in its most perfect form it gives quantitative relations. Such a relation is ‘general’ in our sense, but it is not a genus, a thing, at all. It crosses and confuses all that Aristotle would have thought the most palpable distinctions of genera; it applies as much to the semi-divine heavenly body as to the lifeless stone.

If evolution is really creative, the famous theory of Herbert Spencer is no better than a mare’s nest (*E.C.*, 392-398). It recognises no ‘making’; it deals only with the made. It builds up the world by the composition and separation of solid particles; it explains instinct and reasonable will by a composition of ‘reflexes’; it makes the principles of intelligence the imprint effected on us by the ‘phenomena’ of the external world. But how do we come by solid particles, by distinct phenomena? they are just the creation, or rather the external reflexion, of intelligence in the continuous flux. When intelligence is not, they are not. And this distinguishing intelligence, and instinct, and the ‘reflexes’ are themselves the creation of the life-force, that in its effort to express and manifest itself agitates brute matter, and gives rise to the continuous flux. *Vita agitat molam.* ‘Reflexes’ are not original, instinct is not original, intelligence is not original. Is the creation of a city explained by pointing to the collocation of houses? The creation of the city is also the creation of the houses with the streets that separate them, whose outlines they define. A picture is really made—says Bergson—as it grows under the hand and mind of the artist; if the same picture is glued to cardboard and cut into squares, a child may put them together; but he is *making* the

picture. Just such a sham making inconceivable except as preceded by a real making, is what Spencer presents as the evolution of the world and man.

Bergson's metaphysics involve, as he expressly points out, the two ideas of growth and decay, of a rise and a descent. The working of the life-force is a process of creation, but the law of matter is dissipation of energy, waste, loss. Are we then to conceive two independent, antagonising principles, as opposite as the tendency of matter to fall to the earth and there remain inert and of the energy which raises it? Bergson suggests that the seeming opposition, the seeming inverse relation of the two processes to one another, is really due to the *interruption* of the one process of creation. If the one is called tension, the other will be relaxation, or, as the French more neatly puts it, '*détente*'. From the one comes complexity, interpenetration, the abolition of space, which is the *schema* of separateness; from its interruption comes separation and the re-creation of spatiality. Therefore in the conscious life, which is ever creative, space and spatial relations are unmeaning, and the attempt to understand it as due to the 'attraction' of separate elements (in Hume's phrase) must be a hopeless failure. But, as we have so often said, the peculiarly human practical work of intelligence can only be effected, if at all, by a separation of elements in the continuum. It is actually effected, and we must therefore hold such separation to be in a measure real. Possibly then it is real just where the work of the life-force stops or is broken off. If we could see that life-force operating throughout the universe, as perhaps ultimately it does, our intelligence would be blasted in such vision; the human species, supporting itself in existence by intelligent action, would be annihilated or give place to some higher form.

We are tempted to close our survey of Bergson's philosophy by asking how it solves, if it can solve, a problem which is a testing stone to all evolutionary theories, and in which Bergson himself obviously feels a deep interest—whence comes the immeasurable superiority of Man over his brother vertebrates? Allow him to have advanced farther on the road of intelligence than they, to depend far less on instinct, even—as Bergson somewhere says—to have definitely given instinct its *congé*, how are we to account for his enormous superiority, for the seeming infiniteness of his possibilities? His body is a system of machinery developed on the same lines as that of the other vertebrates and not to an external view widely differing from theirs. His freedom they share. If he can generalise, so also—as far as practice is concerned—can they,

and often with great intelligence. We see of course in him three great possessions which immensely reinforce his intelligence—his instruments, which embody actions, while the animal's only instrument is his own body and the motor mechanisms he gradually creates in his nervous system; his language, which is itself an instrument, and the most valuable kind of instrument, that which recalls and gives us the command of ideas, so that the Nominalist is not altogether wrong when he identifies ideas with words, more right in fact than the grosser kind of Conceptualist who identifies them with images; his social co-operation, a co-operation not unknown to the animals, but raised in man to an altogether higher power by his possession of instruments and language, which can be shared as nothing belonging to the animal can. But still all these seem accidents, if fortunate accidents, not enough to raise mankind into a species so transcendently different. Perhaps Bergson has hit the mark when he suggests that the animal with all his intelligence is yet and remains 'the captive of his own body'. He can only raise himself above automatism by falling into a new automatism altogether. By a well-known incident in the history of inventions Bergson illustrates his point with his usual felicity. We have all heard of the first crude steam-engine that required the constant attention of a boy to open and shut the valves for the admission to the cylinder of the cold water or steam; and how one day a truant of genius bethought himself of tying the handles of the valves to the beam of the steam-engine; henceforth the engine worked itself, and the boy was left free to employ himself as he pleased. So the progress of man has taken place through the creation of an external machinery which relieves him from the animal's limitation of choice, a mere choice of slaveries. The animal can only make of himself a new machine; the man ceases to be a machine at all.

III.—A NEW ‘LAW OF THOUGHT’ AND ITS IMPLICATIONS.

BY E. E. CONSTANCE JONES.

“I am the pillars of the house,
The keystone of the arch am I;
Take me away, and roof and wall
Would fall to ruin utterly.”—K. TYNAN.

It will not be disputed that assertions of the forms

S is P, S is not P

are possible, actual, significant, useful and necessary. They *can* be used, they *are* used, they *must* be used. I agree with Prof. Frege in holding that propositions of the form *S is P*

 are correctly analysed as asserting identity of ex-

tension or denotation (*Bedeutung*) in diversity of intension or signification (*Sinn*),¹ and from this analysis² I obtain the principle that—

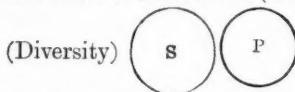
Every subject of affirmative Predication is an identity-in-diversity (*i.e.* denotational unity in intensional difference). This applies absolutely without exception to every Proposition of the form *S is P*.

A corresponding analysis applies to propositions of the

¹ By Extension or Denotation of a name I mean the things to which the name applies; by Intension or Signification of a name I mean the properties of the things to which the name applies. Extension gives the ‘existential’ aspect, Intension gives the qualitative aspect. The things in question may be material or immaterial; they may have a fixed and definite position in space and time, or be, on the other hand, ideal, imaginary, or merely suppositional. The Extension or Denotation of *e.g.* Quadruped is: Lion, Tiger, Horse, Dog, Cat, Mouse, etc.; the Intension is: Animality and Four-footedness.

² This is the most elementary, and the only absolutely general analysis of Propositions (as distinguished from sentences) of the form *S is P*. It is as general as the form *S is P* itself, and from that most abstract form, this universally applicable analysis can be obtained. Compare $a=b$ as symbolic of equations.

form *S is not P*. Every proposition of this form asserts difference of Denotation (Otherness) in difference of Intension



I will examine cases in illustration of the above analysis of *S is P* and *S is not-P* further on, and briefly consider the relation of *S is P*, *S is not P*, to 'Relative' Propositions, such as *A is equal to B*, *C is father of D*, etc.

Propositions of the forms *S is P*, *S is not P*, are indispensable for significant assertion; and we need them for a satisfactory statement of the 'Laws of Thought'. Without them we are in strictness limited to

A is A, *A is-not not-A*, *A is either A or not-A*,¹

forms which, though they have at first sight a dazzling appearance of self-evidence, are not only unnatural and difficult to interpret, but are also separated by an impassable chasm from *A is B* (*S is P*).

Granted that we can assert *A is B*, *A is not B* (*S is P*, etc.), and further that we can explain and justify this form, we can proceed to a straightforward, effective and applicable statement of the Laws of Contradiction and Excluded Middle, thus:—

S is P {cannot both be true (Law of Contradiction).

S is not P {cannot both be false (Law of Excluded Middle).

It follows from these two Laws that of any Subject of Predication (*S*), any Predicate (*P*) is affirmable or deniable; and that of any Subject of Predication (*S*), either *P* or not-*P* can be affirmed. And so from *S is P*, *S is not P* (analysed as above) we obtain the principle that—

Every Subject of Predication is an identity-in-diversity. (It is the above analysis of Categoricals and its implications that I desire to expound and advocate in this paper.)

It follows further from the above that every Predicate (*P*) is necessarily incompatible with *not-P*, (*absence of intension P*), and necessarily compatible with *not-not-P*. (This suggests a principle of necessary connexion of attributes.)

The learner² who is informed that

S is P

¹ Everything is *A* or *not-A* is of the form : *S is P or not-P*.

² The thought-process of the teacher (speaker, writer, etc.) is always prominently a process of analysis—he has a *whole* before him and sets it forth to his audience—(pupils, hearers, readers). (Compare Bradley's

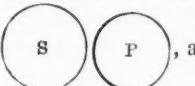
is thereby entitled to make a construction to which the

designations S and P both belong, thus:  Having

this before his mind, he is entitled to say, not only that S is P, but also that P is S, that S is-not not-P, that not-P is not-S, etc. If he is informed that

S is not P

he is similarly entitled to make a construction in which S is

separated from P, , and to say that P is not

S, not-S is P, etc.

Again, if he accepts the statements—

M is P

S is M

he is entitled to the construction of something which is S, M,

P, thus: ; and this entitles him to the further as-

sertion *S is P*; for the thing which S and M and P taken in Extension denote, has in the *one extension* common to them all the *diverse intensions* signified by S, M, and P.

The gist of the last paragraph may be expressed in a self-contained Hypothetical thus:—

If M is P and S is M, then S is P



(*Principles of Logic*, bk. ii., pt. i., ch. iii., § 4; *Stout's Analytic Psychology*, ii., 71; *Sidwartz's Logic*, English translation, i., 25, 26.)

The thought-process of the learner, listener, reader, seeker, is always emphatically synthetic.

But no one can ever be permanently—hardly even momentarily—altogether in *one* of these attitudes. The teacher, in setting out his material, must be constantly getting fresh *aperçus*, grasping new connexions, annexing fresh facts. The learner or seeker who can consciously learn or seek to any purpose, must already have, and use, some store and background of knowledge.

This distinction of attitude, and corresponding divergences in past interpretations of Categoricals, is not only interesting but highly important—especially perhaps in connexion with the meaning of Inference and its place in logical theory.

And other Hypotheticals are reducible to a similar statement, e.g. :—

(a) If A is B
and B is C
and C is D
and D is E
then A is E

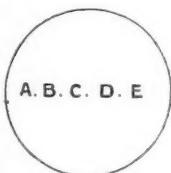


FIG. 1.

(b) If all A is B
and all B is C
and all C is D
and all D is E
then all A is E

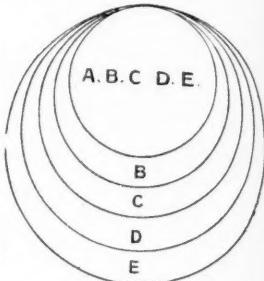


FIG. 2.

(b) may be represented diagrammatically by Fig. 1 or by Fig. 2 or by some combination of the two.

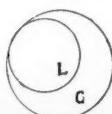
In Inference the identity-in-diversity which is inferred is given directly not in the premisses, but in the construction to which the premisses entitle the learner or seeker.

As much of the denotation of B, C, D and E as are predicable of A are in denotation identical with A ; and of this one denotation or extension, the diverse intensions signified by A, B, C, D, E taken in intension, are predicated.

In accepting S is P as an appropriate symbolic expression of all affirmative Categoricals—the most general and ‘abstract’ expressions of such Categoricals, as $a = b$ is of equations—it is of course taken for granted that S stands for the whole of the Subject, and P for the whole of the Predicate, whatever the Subject and the Predicate may be, and that *is* signifies identity of denotation between them, without offering or attempting any *explanation*, by reference to origin or otherwise, of the co-existence in one denotation of the intensions concerned, or any discrimination of the differences by which one kind of Categorical may be distinguished from another. When S is P is used as symbolising Class-Propositions,—All R is Q, No R is Q, etc.—S stands for the explicitly quantified subject All R, and P for the implicitly quantified Predicate All or any Q, some Q. By *implicitly quantified* I mean that there is no explicit quantification, but that explicit quantification is justified.

If S is P stands for—

All Lions are carnivorous



S symbolises *All Lions*, P symbolises [*some*] *carnivorous*. Unless C were implicitly quantified, by *some*, thus limiting the 'distribution,' *Lions* must be understood to be coincident in denotation or extension with *carnivorous*, and thus to be also *Tigers*, *Panthers*, *Wolves*, *Vultures*, etc. Similarly with negative Categoricals. In : No *Hellebores* are fragrant, $\textcircled{H}\textcircled{F}$, (= All H are not F) *Hellebores* is explicitly quantified by No (= All not), fragrant is implicitly quantified by All or Any, and

$$\text{All } \textit{Hellebores} = S, \text{ All } \textit{fragrant} = P.$$

If this were not so, we should not be justified in inferring from No H are F, that No F are H.

In : Some *beeches* are not green-leaved, *beeches* is quantified explicitly by *some*, green-leaved is quantified implicitly by *Any*.

$$\text{Some } \textit{beeches} = S$$

$$\text{Any } \textit{green-leaved} = P.$$

The reason why O is inconvertible is not because there is any question about implicit quantification of the Predicate, but because when the [explicitly] quantified converse of O has been reached (No green-leaved things are some beeches), in deference to common usage (and therefore to ordinary thought) the quantification of its Predicate has to be dropped and the converse becomes: No green-leaved things are beeches. This of course involves an illegitimate extension of the denotation of *beeches*.¹

In : All Planets move in elliptical orbits,

Jupiter is a Planet,

. . . Jupiter moves in an elliptical orbit,

moving in elliptical orbit must be understood to be implicitly quantified by *some*, otherwise Planets would be coincident with the things, whatever they are, which move in elliptical orbits—that is, with the whole extension of *moving in elliptical orbit*. In the conclusion, the extension of *moving in elliptical orbit* is restricted to the one-planet-extension of Jupiter, as, in the Minor Premiss, the extension of *Planet* is restricted to the extension of the Minor Term, Jupiter.

It is the Identity-in-diversity of affirmative Categoricals which justifies their conversion, with the implied quantification, and the pivot of Mediate Inference is a denotational identity of whole or part of the Middle Term in one Premiss with the whole or with part of its denotation in the other.

¹ Conversion of A and I, with the implied quantification, would be impossible unless there were denotational identity between Subject and Predicate. It is to be noted also that in many languages an adjective predicated agrees in gender and number with its Subject.

In the Planet-instance above, the denotation of the Middle Term in the Minor Premiss is identical with part of the denotation of the Middle Term in the Major Premiss. We may compare Thackeray's story of the priest and his first penitent quoted by Dr. Bosanquet (*Essentials of Logic*, pp. 140, 141) as an instance of what Dr. Bosanquet calls "inference from mere identity":—

"An old Abbé talking among a party of intimate friends happened to say: 'A priest has strange experiences; why, ladies, my first penitent was a murderer'. Upon this the principal nobleman of the neighbourhood enters the room: 'Ah, Abbé, here you are; do you know, ladies, I was the Abbé's first penitent, and I promise you my confession astonished him!'"

Here an unambiguous Middle Term—*the Abbé's first penitent*—unexpectedly reveals the horrifying fact that the principal nobleman of the neighbourhood is a murderer.

In this we have certainly an inference from 'identity'—not however 'mere' identity but denotational identity in intensional diversity. It would be interesting to be shown precisely how, in any case *without* identity of this sort,—without denotational or extensional identity—any inference whatever could be drawn.

The same principle of identity in diversity applies in the case of concrete Hypotheticals. Take e.g. this example: If Ferdinand marries Henrietta, he will be ruined. This may be expanded as follows:—

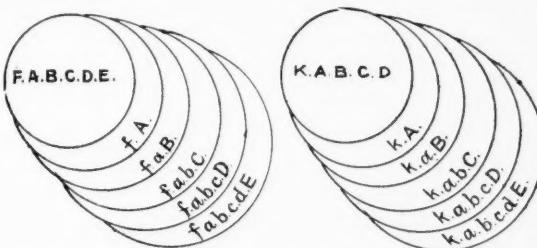
- If F marries H (A), he will be responsible for her debts (B).
- If B, he will be responsible for double his income (C).
- If C, he will be unable to meet his responsibilities (D).
- If D, he will be financially ruined (E).

It is the identity of Henrietta with a person who will spend double Ferdinand's income, and of Ferdinand with a person who marries Henrietta, with a person who will be responsible for her debts, and for double his income, and therefore unable to meet his responsibilities, that leads inevitably to the regrettable conclusion. If Ferdinand were a minor and his father a millionaire, F might not be B; if Henrietta were herself a millionaire, or if her expenditure would be only half Ferdinand's income, he would not be C; and so on.

Again:—

- If Kate marries Peter, she will be wretched, may mean—
- If Kate marries Peter (A) she marries an old-fashioned miser (B).
- If B, she will be half-starved (C).
- If C, she will be wretched (D).

It is on the identity (in diversity) of Kate with a person who marries Peter, and therefore (the denotation of Peter being the denotation of a miser and therefore the denotation of a man who will half-starve his wife) with a person who marries a miser, and thus with a person who will be half-starved, that ensures her identity with a person who will be wretched. The two examples may be illustrated diagrammatically thus:—

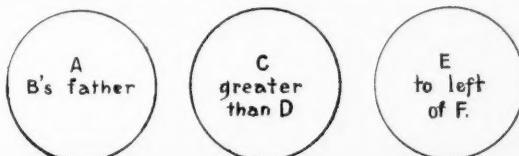


It would be easy but tedious to multiply examples.
How do the propositions which are what is called 'Relative'—i.e. propositions which state the relation to each other of two or more objects connected as members of a system, e.g. A is father of B, C is greater than D, E is to the left of F—how do these compare with assertions of the form *S is P*, *S is not P*? What *S is P* gives us is intensional diversity in identical denotation; in all Relatives we deal with two such denotations, which are correlated, and neither of which can be predicated of the other. Obviously in the above instances

A is not B (A) (B); *C is not D* (C)

(D); *E is not F* (E) (F); but A, although he

is not B, is B's father, C although not D, is greater than D, E although not F, is to the left of F:—



We are constantly using Relatives in common speech in conjunction with the non-relative *S is P* form, and this form is easily imposed on Relatives when desired (as in the above examples). I do not regard the denotation assigned to Subjects or Predicates as implying existence in space or time, or indeed any particular kind of existence; no such implication could possibly attach to *S* and *P* in *S is P*; to admit the generality of the form *S is P* is to bar the implication—but intension cannot be, or be thought of, imagined or supposed, except as the intension of *something*, of some *that*, which has just as much (or as little) ‘reality’ as the qualities the intension, the what-ness, which it holds together in a denotational unity. We must be able to use propositions, and to have some general theory of import—*i.e.* of what propositions in general mean—before we can proceed to settle what precise kind or measure of ‘existence’ or ‘reality’ our Subjects and Predicates have.

Dr. Keynes, in the fourth edition of his *Formal Logic* allows that ‘logical equations,’ such as

Equilateral triangles = equiangular triangles,

may be understood to assert *Identity of denotation in diversity of connotation*. It seems obvious that on this basis nothing but the recognition of implicit quantification is necessary in order to make acceptable my analysis of affirmative Categoricals in cases in which the terms are connotative. And then the way seems clear to an acceptance of it as quite general. *Ce n'est que le premier pas qui coûte*, and there is no witchcraft about connotation as distinct from intension. I may point out that in the alternative interpretations on page 178 of *Formal Logic*,¹ and in the passage of Mrs. Ladd Franklin mentioned in note 1 on page 179, the force of the copula is not referred to; in other words, we are not told exactly *how* the two aspects of Terms are to be ‘taken account of’ in the proposition, and this is the very point of my analysis; unless the *is* of the copula in *S is P* signifies denotational identity (intensional diversity is signified by the terms) *S* and *P* cannot be held together in the proposition, affirmative Class-propositions cannot be converted, there is no link to connect the premisses in mediate inference, we must lapse into the disintegration of Lotze’s analysis, and say that

$$S \text{ is } P = \begin{cases} S \text{ is } S \\ P \text{ is } P \\ S \text{ is not } P \end{cases}$$

¹ Compare MIND, 1893, p. 452, etc.

The copula is sometimes stigmatised as a 'verbal device' of the most objectionable kind, and it is asked: What is there in the subject-matter of an assertion which corresponds to it, is it not irredeemably artificial? I admit of course that if, e.g., I am eating a ripe peach, and say: This peach is ripe,

(1) the whole, *ripe peach*, , which is present to me,

is not a matter of words, and (2) that in particular there does not seem to be anything in that whole which corresponds to the copula to as great an extent as its being and qualities correspond to *this peach* and *ripe*. But if we admit words as a necessary device for the recording and communicating of knowledge, it must be allowed that the copula fulfils an important function very modestly and economically. Mill (quite naturally) placed disproportionate stress on connotation, but it is noticeable that he lays it down that the most common meaning which propositions of the form *S is P* are ever intended to convey is that whatever is denoted by (or has the Attributes connoted by) the Subject, has the Attributes connoted by the Predicate (Mill, *Logic*, bk. i, ch. v., § 4). This gives us identity of denotation in diversity of connotation: but Mill does not live up to this—it seems indeed as if he had hardly realised its force. It occurs to him when he is asking: *Between what* is connexion asserted in a Proposition? When he goes on to the further question: *What is the connexion asserted?* he enumerates five ultimate kinds of predication—afterwards reduced to four, viz.: Simple Existence, Order in Time, Order in Place, and Resemblance; and, so far as I remember, he makes no subsequent use of or reference to his one almost general analysis. The present analysis of *S is P* into *identity in diversity* is fundamentally similar to Mill's, but has a wider scope. It was first, I believe, put forward in print in a little book of mine in 1890. A view which I understand to be the same as mine was published by Prof. Frege in 1892; and in Mr. Bertrand Russell's *Principles of Mathematics* (1903), Frege's view is adopted with some reservations. On this view the science of Logic is the science of the "Laws of Thought" (if we choose to call them so). I should however like instead of Laws of Thought, and Law of Identity (1), Law of Contradiction (2), Law of Excluded Middle (3), to speak of Laws of Logic, to substitute for (1) a "Law of Identity in Diversity," of the form given above, to call (2) the Law of Consistency (since the Law of Contradiction excludes inconsistency), and to call (3) the Law of Coherence

(since it formulates a principle of Subject-Predicate connexion between all terms).

For affirmation, extension of S and P must be identical—otherwise the copula cannot be *is*—S, in intension, is different from P in intension. For significant affirmation, P must be intensionally different from S.

If the P and S of any *S is P* were taken purely in extension or denotation, we should have no use for Predicates that differed from their Subjects—S alone, or P alone, would be sufficient. If S and P are taken one in extension or denotation and the other in intension, it is clear that we can never say that one *is* the other, that the intension of one *is* the extension of the other.

And the attempt to take the S and P of an affirmative assertion in intension only, can lead to nothing but confusion and disaster—witness Lotze's reduction, referred to above, of *S is P* into—

$$\begin{aligned} S & \text{ is } S \\ P & \text{ is } P \\ S & \text{ is not } P \end{aligned}$$

(See Lotze's *Logic*, ch. ii., book i.; also MIND, 1893, pp. 449, etc.) Lotze's application of the so-called Law of Thought *A is A* to propositions of the form *S is P* is a *reductio ad absurdum* of a purely conceptual Logic. What *A is A* apparently means for him would be better expressed by *A-ness is A-ness*, for *A-ness* is never any-other-ness, it is no *not-A-ness*, it cannot be *B-ness* or *C-ness*. If this is taken into account, it becomes clear that *A is A* reduces us to a deadlock. If we begin with *A-ness is A-ness*, there we must end, and Lotze's conclusion above quoted is inevitable. But the moral I deduce is, not that we must end there, but that we must never begin there; we must recognise, with Locke, that "all affirmation is in concrete," and this brings us inevitably to the identity-of-extension-in-diversity-of-intension interpretation of *S is P*. We cannot assert one 'concept' (or intension) of another, but only that a denotation characterised by some intension (S) has another intension (P)—an intension which is compatible with, which co-exists with, the intension of S in one subject. To take Locke's example, we can say, *Man is mortal*, but we cannot say *Humanity is mortality*.

Lotze's difficulty about the interpretation of *S is P*, and similar difficulties felt by earlier logicians, seem to involve a failure to distinguish between—

(1) predicating of S an intension P which is incompatible with the intension of S and would involve its denial (presence of P is taken to imply absence of S);

(2) assigning to denotation S an intension P, which, while it is not intension S, is compatible with that intension and

can co-exist with it in one denotation,



The difficulties above referred to vanish on the identity-of-extension-in-diversity-of-intension view of the interpretation of *S is P*, while on a purely conceptual or intensional view they are fatal to any coherent doctrine of propositional import.

It is only *identity of extension* that can hold together the diverse intensions in affirmation; it is only identity of extension that can give the necessary connexion in Inference, Immediate and Mediate (if not, it would not, in Mediate Inference be necessary to 'distribute' the Middle term—intensional sameness and an 'undistributed Middle' would suffice, and "Substitution of *Similaris*" would be a valid principle of Inference). This is of course entirely compatible with the fact that intension may be, and constantly is, a guide to extension; e.g. it is because of the inseparable connexion of equality of sides in a triangle with equality of angles at the base, that I can affirm: *All equilateral triangles have the angles at the base equal.*

According to my use of Terms, *S is-not P* (*S is not-P*) asserts that the intension of P is absent from what is denoted by S (not that the intension of S is diverse from the Intension of P—that goes without saying and applies in *S is P*)—the presence together with the absence of P in one Subject, *S is P* and *S is not P*, cannot be asserted, P and not-P as assigned to one denotation are incompatible. Thus in every assertion *S is P*, the presence of P is necessarily accompanied by the absence of not-P. And similarly, the presence of not-P is necessarily accompanied by the absence of P, while Assertion and Inference, as I contend, depend upon Identity of Extension (or Denotation) in Diversity of Intension. The principle here affirmed—that there is a formal and necessary connexion of Attributes that is predicable of every Subject of predication—may possibly be regarded as a formal Principle of Inductive Inference: it asserts (not only that the presence and the absence of P are incompatible but also) *that the presence of P and the absence of not-P are inseparably conjoined*. And of every subject (S) the presence or absence of any predicate (P) is predicable (L. of Excluded Middle). Thus of every subject (S) the presence or absence of every Predicate in the world (every P) may be asserted. This

measure of uniform connexion and uniform incompatibility is self-evident.

What inseparable connexions and incompatibilities there actually are beyond these purely formal, or most general, ones must be learned by appeal to experience. We cannot say *S is P* or *A is B* until (directly or indirectly) we have found some case in which *S is P*, or *A is B*.

My contention is that my Law of Identity in Diversity first makes (theoretically) possible a satisfactory statement, in *S is P*, *S is not P* form, of the Laws of Contradiction and Excluded Middle, and that it, together with them, does furnish a real and adequate basis and starting-point of syllogistic Logic. Granted propositions of the form *S is P* with the identity-in-diversity analysis and the corresponding analysis of *S is not P*, together with the already accepted Laws of Contradiction and Excluded Middle, the whole traditional scheme of Immediate and Mediate Inference can be built up systematically and explicitly, from the foundations. In Logic, as in all thinking, propositions of forms *S is P*, *S is not P*, have of course always been used. Thought cannot live and move without propositions of this form; but so far as I know they have not hitherto received a satisfactory and commonly accepted general analysis, an explicit recognition by logicians that they are the primary and fundamental forms of significant assertion, needed even for a satisfactory expression of the Law of Contradiction and the Law of Excluded Middle. It is the Law of Identity *A is A* which has stood in the way. And it is impossible really to get rid of this tautology, posing as the self-evident and significant basis, until it is seen not only that we must admit *A is B*, not only that 'mere identity' is our undoing, not only that for significant assertion we must have an identity in difference, must recognise that *A is B* is preferable to *A is A*. All this does not avail until we can give a clear account of what *exactly* is meant by the identity-in-difference of *A is B*. There are, it is admitted, no more ambiguous words in Philosophy than Identity and Difference, and there are none of which the meaning has been more elusive, none more misleading. Even some of the acutest thinkers do not seem to have escaped the snare. The source of the ambiguity is not far to seek, for of the two fundamental kinds of Sameness, (1) extensional or denotational sameness, and (2) qualitative sameness, (2) is very constantly (though by no means always) a sign of (1). *E.g.* if a stowaway is observed to have all the published characteristics of an escaped criminal, the similarity is regarded as an indication of 'identity'. It may

however turn out to be a case of 'mistaken identity'. For recognition of *likeness* there must be a comparison of two, though the two may be only *one* thing at *two* times. It is partly because all this is so simple, that it has proved so insidious. But though simple, it is absolutely primary. The *A is A* difficulty has been with us since, at any rate, the appearance of the Eleatic Stranger in the *Sophistes*, who reports the view of certain 'tyros' that of *man* we can only assert *man*, of *good* we can only predicate *good*. Neither the Eleatic Stranger nor any one else in the *Sophistes* provides a satisfactory solution of the puzzle, though the Stranger shows both common-sense and logical insight when he lays down the principle that those who deny the possibility of the assertion, concerning any subject, of a predicate different from itself, are confuted out of their own mouths, they "are obliged to admit it implicitly and involuntarily in their common forms of speech. They cannot carry on a conversation without it, and they thus serve as a perpetual refutation of their own doctrine." From that day to this the solution of the puzzle has it seems been still to seek; though from the time when the distinction between Extension (Denotation) and Intension, That-ness and What-ness, was clearly drawn, it ought to have been easy. Jevons, I believe (like Mill and many other able thinkers), came in view of it—but slipped aside into hopeless, because concealed, confusion in his "great rule of inference," the "Substitution of *Similar*s" (*Principles of Science*, p. 9, 3rd edition).

Lotze has the merit of having seen that propositions of form *S is P* needed to be accommodated with the Laws of Thought; but as he could not reconcile *S is P* with *A is A*, he gave up (professedly) *S is P*. The Eleatic Stranger could have taught him better.

IV.—MOTIVE.

By J. L. STOCKS.

IN ordinary speech motives are commonly said to be good or bad, rational or irrational, selfish or disinterested, simple or complex, conscious or unconscious or half-conscious; and there are innumerable other epithets, lending themselves on the whole, perhaps, as Bentham said, more to abuse than compliment, which may be attached to the word. But the term is not often defined, and such definitions of it as I have come across seem to rule out many if not most of these epithets as illegitimate.

Perhaps the popular distinction which is most uniformly excluded by definitions of the term 'motive' is that of conscious and unconscious. This distinction certainly is familiar and important in our ordinary use of the word. When we talk of the hidden motives of an act we mean motives hidden not only from the spectator but even from the agent himself. There is a generally recognised meaning in the statement—'I thought at the time I was acting from disinterested motives; but I see now that it was self-interest which prompted me to act as I did'. Or—to take another instance—I suppose it happens to all of us from time to time to become involved in a heated argument. In the midst of such an argument it is almost impossible to believe that our vehemence is not the direct result of an earnest desire that truth shall prevail: but afterwards do we not often question our own motives? It may occur to us in retrospect that the opinions which our opponent A was advancing were really just the same as those which had previously given no offence, or even perhaps won assent, in the mouth of B. 'Oh, well,' we may say, 'there are some people with whom it is impossible to agree, and A is one of them.' The unconscious motive then was antagonism to A. The fact is perhaps even clearer in our accounts of the actions of nations. Do those who maintain that the real motive of the Peloponnesian War was the trade jealousy of Athens and Corinth think that Pericles or the Peloponnesian leaders were aware of that fact? They may, but they need not. They could still

maintain it even though it were proved that no leader on either side took that view of the fact, and that the common soldiers fought either without asking for a reason at all or in the belief that they were struggling for justice and liberty. The same might be said of our own recent South African war. Those who maintain that the financiers were 'at the bottom of it' know that neither the generals nor the soldiers fought knowingly for trade, and that the financiers in question would quite honestly repudiate the suggestion that they engineered the war for the benefit of their own pockets. Yet the war may have been none the less a trade war, even though none of the agents responsible or irresponsible ever to his knowledge allowed trade to count at all in any single decision. What, again, is the economic interpretation of history if not one vast assertion that it is the unconscious motive that counts, that, while orators and statesmen and men in the street talk of the eternal verities and of the unwritten laws of international justice—that behind and beyond all the froth and foam there is a single operative principle which is not the less but the more effective because it is unsuspected? Readers of Thomas Hardy's poem 'The Dynasts' will remember how the immanent unconscious Will is made manifest to the supernatural vision of the Spirits which observe as spectators the human drama.

A new and penetrating light descends on the spectacle, endowing men and things with a seeming transparency, and exhibiting as one organism the anatomy of life and movement in all humanity and vitalised matter included in the display.

Spirit of the Pities. Amid this scene of bodies substantive

Strange waves I sight like winds grown visible,
Which bear men's forms on their innumEROUS coils,

Twining and serpentinEING through and through. . . .

Spirit of the Years. These are the Prime Volitions,—fibrils, veins, Will-tissues, nerves, and pulses of the Cause,

That heave throughout the Earth's compositione.

Their sum is like the lobule of a Brain

Evolving always that it wots not of;

A Brain whose whole connotes the Everywhere,

And whose procedure may but be discerned

By phantom eyes like ours; the while unguessed

Of those it stirs, who (even as ye do) dream

Their motions free, their orderings supreme;

Each life apart from each, with power to mete

Its own day's measures; balanced, self-complete,

Though they subsist but atoms of the One

Labouring thro' all, divisible from none.

This is the vision of the one world-will, operating through consciousness, but unconscious, 'whose meaning we may muse on, never learn'.

These instances are sufficient to show that some meaning however vague attaches to the proposition 'the real motive of an act may be unknown to the agent' or 'a motive may be unconscious'. But if these phrases have any meaning, what are we to make of the considered judgments of the philosophers? 'A motive,' says Schopenhauer, 'is causality seen from within.' Is the unseen motive then simply causality? Höffding, in his *Psychology*, defines motive as 'the feeling excited by the idea of the end'.¹ T. H. Green (*Prol.*, § 87) makes motive the 'determining cause' of human action, and defines it as 'an idea of an end which a self-conscious subject presents to itself, and which it strives and tends to realise'. Neither of these definitions leaves any place for the unknown or unconscious motive. Nor is that the only point in which they conflict with the ordinary use of the word. If motive is 'the feeling excited by the imagination of an end,' it is difficult to see how it should be called reasonable or the reverse, simple or complex; still more perhaps how it should be interested or disinterested—or is it the nature of the end which arouses the feeling in virtue of which it is selfish or unselfish? or is it again the fact that this feeling should be excited by this end that justifies the epithets? There seems to be no simple answer to these questions. If again the motive is the end aimed at, we may ask whether an end in itself can be said to be selfish, as a motive is said to be selfish, or whether it can in itself be unreasonable, or why we distinguish 'motive' from 'intention,' or again (a curious point of language) why in that case we tend to speak always of our 'motives' rather than of our 'motive'.

What, then, is Motive? And is it possible to arrive at some general statement of its meaning which shall be compatible with the popular distinctions, and bring together in one harmony the philosopher, the novelist, and the man?

Provisionally and in order to clear the ground I would advance the proposition that 'motive is that characteristic tendency or disposition of a man in virtue of which a given act possesses an attraction for him'.

By way of explanation let us consider, first, the relation of motive to reflexion or deliberation. It is clear that we do not attribute motives to non-reflective beings—we do not talk of the motives of a dog or a donkey: we attribute motives only to beings capable of reflecting on their action, and to them (as a rule) only in accounting for actions chosen

¹ "Das durch die Vorstellung vom Zweck erregte Gefühl." Eng. Tr., p. 324.

after deliberation. Purely instinctive or impulsive action is not motived. If a man is hungry and eats, if a soldier in the presence of the enemy is frightened and runs away, we should not naturally talk of the motives of hunger or terror. If on the other hand a man who is not hungry eats and a soldier who is not frightened runs away in the face of the enemy, we certainly should demand and invent a motive to account for the action. Curiosity may lead a man to eat when not hungry, and flight may be a ruse to draw the enemy into a trap. The action dictated by impulse or instinct is not directed to any end beyond itself: the hungry man is not fulfilling a carefully pondered design of eating when hungry; nor is the soldier acting upon a deliberate resolution at all costs to safeguard his own life. The second pair of cases on the other hand are instances of actions involving purpose and consequently some degree of reflection. In them we distinguish the act—the eating, the running away—from the purpose—to find out what this new kind of fruit tastes like, to entrap the enemy. In one case we readily specify the motive as ‘curiosity’; in the other case it would not be so easy, and in ordinary speech we should probably identify the motive with the purpose. If that is the case, clearly we shall be in difficulties. But for the moment let us confine ourselves to the single point that the word motive is only used in connexion with considered action.

A second point which is worth noticing is that as a rule at any rate in giving the motive of an act we exhibit the act as the passing manifestation of a general direction of the will. We appeal from the particular decision to a relatively stable persistent something in the character of the agent. The curiosity manifest in the eating existed before the act and, though satisfied, exists after it. It is capable of innumerable other applications in different circumstances. The same is true of the jealousy which is the motive of crime, or the fear which is the motive of deliberate treachery. I do not mean to imply that cowardice or meanness or extravagance or any other weakness of character is readily attributed to an act as its motive. In point of generality motive seems to stand midway between ‘habits’ of this kind and the particular act or intention. (Perhaps the Aristotelian distinction of *ἔξις* and *διάθεσις*, habit and disposition, might be used to express the relation of the motive of the coward to his cowardice.) Tentatively then we may formulate a second conclusion—that the motive is always more general and less transitory than that which it is introduced to explain.

Thirdly, what is the relation of ‘motive’ to ‘intention’?

In a recent text-book of Ethics¹ Prof. Dewey takes as the central point of his exposition the contrast between systems which lay the chief stress on the goodness of the intention or the intended consequences of an act, and those which emphasise goodness or purity of motive. He points out that in common speech motive and intention are often used interchangeably. ' Ordinary speech,' he asserts,

says indifferently that a man's motive in writing a letter was to warn the person addressed or was friendliness. According to Bentham and Mill, only so-called states of consciousness in which one feels friendly can be called motive; the object aimed at, the warning of the person, is intention, not motive. Again ordinary speech says either that a doctor's intention was to relieve his patient, or that it was kind and proper, although the act turned out badly. But the utilitarians would insist that only the first usage is correct, the latter confounding intent with motive. In general, such large terms as ambition, revenge, benevolence, patriotism, justice, avarice, are used to signify both motives and aims; both dispositions from which one acts and results for which one acts. It is the gist of the following discussion that common speech is essentially correct in this interchangeable use of intention and motive. The same set of real facts, the entire voluntary act, is pointed to by both terms.

Thus what Prof. Dewey tries to prove is that the controversy between these contrasted ethical doctrines

depends upon an underlying misapprehension. Their common error . . . lies in trying to split a voluntary act which is single and entire into two unrelated parts, the one termed 'inner' the other 'outer,' the one called 'motive' the other 'end'.

Leaving for a moment the merits of Prof. Dewey's contention, I should begin by objecting that the facts of ordinary speech from which it professes to start are to some extent illusory. Ambition, revenge, benevolence, patriotism, avarice, are certainly employed to designate motives, but never, I believe, even by the most careless users of language or in the widest possible sense of 'intention,' to stand for an intention. And justice is not even a motive, though the love of justice may be, still less an intention. Again, I cannot see that it shows any confounding of motive and intent to say that a doctor's intention to relieve a patient, though it ended by killing him, was 'kind and proper'. Motive and intent are surely distinguished when the act or intention is called kind and the motive kindness, unless 'table' and 'quality' are confused when a table is called round and a quality roundness. Therefore, though I admit that a presumption of confusion may be drawn from the statement that a 'man's motive in writing a letter was to warn the person addressed'

¹ *Ethics*. By J. Dewey and J. H. Tufts (G. Bell & Sons). See pp. 248 and 237.

(which is similar to a case already noticed), yet it seems to me that the distinction between intention and motive is sufficiently familiar and persistent in ordinary speech to justify an attempt to fix it by definition. With regard to the alleged instances of the confusion of the two terms, I should observe in the first place that though we recognise a sort of propriety in the term motive as used, 'object' or 'intention' would be more natural. And the same is perhaps true of the statement that a soldier's 'motive' in running away was to draw the enemy into a trap. In the second place it should be noticed that, while it would be meaningless to ask the motive of an agent's benevolence or friendliness or patriotism, the warning or trapping of the enemy alleged as motives in these other cases are themselves motived—the warning by friendliness (for instance), the trapping by patriotism or by whatever the motives of a soldier on the battlefield may be supposed to be.

Further, it may be doubted whether the assertion that the motive of an act was A and the assertion that its intention was A really mean the same thing. By an intention we mean something actually present to the mind of the agent at the moment of action: a motive is not usually at least a consideration of this kind at all. It is something (as we should say) at the back of a man's mind which influences his decision. If therefore there is any propriety in using the term motive of what may also be termed an intention, it may be suggested that it is to be found in the fact that a deliberately formed intention may drop into the background of consciousness and yet continue to be operative in our decisions. An intention may under certain circumstances become a sort of disposition influencing decision instead of a consideration affecting it. In the case of a soldier or a doctor this is particularly likely to occur. For a doctor, as Aristotle says, does not debate whether he shall heal, nor even we might add how he shall heal: he heals by habit: and a soldier does not consider whether he shall fight: he knew he would have to when he became a soldier. In each is operative a sort of vague corporate intention to do what he has to do; and often no more precise motive is to be assigned to their actions. It is, then, I think, in these cases the vagueness and remoteness of the intention which gives the term motive its propriety.

In the light of these reflections let us return to Green's definition of motive—the 'determining cause' of distinctively human action—as 'an idea of an end, which a self-conscious subject presents to itself and which it strives and tends

to realise'. This definition, as we saw, cannot be said fairly to characterise the motives—jealousy, revenge, ambition, etc.—which we ordinarily talk about. These are not ends at all and are not facts of which the agent in acting is necessarily aware. But if Green is not defining motive as it is, he may perhaps be said to be defining motive as it ought to be. As moral agents it is our ambition to make our Wills insusceptible to all considerations and influences except the character of the end pursued. 'What is best?' is the only question relevant to a moral decision; and to a perfect will the answer to that question will be the sole and inevitable determinant of action. It makes no real difference whether we say in such a case that there is no motive but only an intention, or that motive and intention are coincident. There is really no motive as distinct from intention. The latter phrase if correct suggests an alternative answer to the question provoked by the interchangeable use of motive and intention. If, we might say, the warning letter was written out of friendliness to the man warned, it is really incorrect to say that its motive was to 'warn the person addressed'. The case of the soldier or the doctor is different. The doctor when he heals, the soldier when he does his best to defeat the enemy, is doing his duty; and if the conditions of these acts are not complicated by the intrusion of special and personal feelings, it would perhaps be fair to say that motive is coincident with intention. And it is this coincidence of the two which we seem to have in mind when we speak of disinterested action. We do not mean that the agent had no interest in what he did; but that the act recommended itself on its own merits, without reinforcement from accidentally sympathetic tendencies.

We may now summarise our discussion of the relation of motive to intention as follows. As a rule, in ordinary speech, motive is distinguished from intention; and the distinction is a real one. Most considered acts have a motive or motives separate and distinguishable from the intention. Sometimes, however, in the perfect will and, on a lower plane, in the recurrent duties of the routine of life, motive is swallowed up in intention, or, to put the same fact in another way, there is no obscure factor distinct from the act contemplated which influences the direction of the Will. (I put the doctor and the soldier on 'a lower plane,' because while we rightly demand of the perfect will a thorough understanding of the nature and bearing of its action, their actions, though equally 'disinterested,' are not equally understood.)

Fourthly, we must now consider the relation of motive to feeling. There is a common superstition—not perhaps so general as it once was, but common even now and even

among quite reputable philosopher-psychologists—that there is some particularly close connexion between motive and feeling. Höffding, in the definition already quoted, identifies motive with a particular kind of feeling, though he does not attempt to specify the distinctive characteristics of motive feeling as feeling.¹ Rather improperly, as I think (though the device is popular with psychologists), the differentia which he gives is derived not from an analysis of the feeling in question, but is simply a reference to its cause or occasion. Motive is ‘the feeling excited by the idea of the end’. Again, it was the much-vaunted discovery of the older Hedonists that pleasure is the only possible motive to action; and pleasure is one of the few terms which beyond dispute fall within the term feeling. Bentham’s long and confused analysis of the meaning of ‘motive’ ends with the assertion that ‘a motive is substantially nothing more than pleasure or pain operating in a certain manner’. Similarly Locke had said (in a familiar passage): ‘The motive for continuing in the same state or action, is only the present satisfaction in it; the motive to change is always some uneasiness: nothing setting us upon the change of state, or upon any new action, but some uneasiness. This is the great motive that works on the mind to put it upon action, which for shortness’ sake we will call determining of the will.’² As usual Locke is more consistent than his imitators. Locke really means what he says, that the *feeling* of pleasure or pain is the *motive* to action or inaction, but what Bentham means is that the prospect of future pleasant feeling is the only prospect which attracts—a very different proposition, which makes it possible to talk of pleasure loosely as a motive to change, but at the same time robs hedonism of much of its psychological plausibility. (It may be remarked in justice to Bentham that in addition to what he calls the ‘motive in prospect’ (*i.e.* the prospect of pleasure or pain) he recognises also a ‘motive in esse,’ which sometimes at any rate is pleasure or pain actually experienced. Thus he would in the last resort probably be driven back upon Locke’s position: but his account is complicated and obscure, and it would not be worth while to examine it in the present connexion.) Now the presupposition of all theories of the Will which find the motive of action in feeling is surely one and the same. It is that if Will is to be understood it must be

¹ Indeed in the exposition which follows the definition quoted he appears to surrender the identification of motive with feeling. If motive is what moves us to act, and ‘the aim embraced by the idea . . . determines the feeling’ (p. 345), then the aim itself or the idea would seem to have a better right than the feeling to be called ‘motive’.

² *Essay* (ed. Fraser), vol. i., p. 331.

interpreted in terms of physical causation. The determination of the Will is regarded as an event, the cause of which is to be looked for in a preceding event. The reflective consideration, therefore, of alternative actions, which adduces reasons for preferring this to that, is not the true cause of the preference of the one to the other. Reflective decision has its cause or reason, but the reason of the conclusion is not a mediating term by which an obscure logical force called validity is communicated to the conclusion. The reason comes into being at the same moment as the conclusion and is itself a necessary part of the conclusion. But an event in the causal series is not allowed to contain its ground within itself. Where then is the cause of action to be found? The choice which is an event in consciousness should have a cause in an antecedent event in consciousness. It would be unreasonable (for reasons already explained) to suppose that what appears to determine decision really determines it. But feeling is the only element in consciousness which does not appear to influence decision. Therefore feeling is what determines the will. Or, we might put it thus, the cause or motive of action is something hidden; feeling is something hidden: therefore feeling is the cause or motive of action. I need not ask whether such reasoning would be permitted in the physical sciences, because, whatever Will is, its determinations are not events of the same kind as the fall of a stone and cannot be explained by the same methods.

My interpretation however of this psychology may be disputed, and in that case I fall back on a simpler and more obvious objection. It is surely amazing that these eminent philosophers should never have asked themselves the question —why is it, if motive is really feeling, that neither pleasure nor pain are ever alleged as the motives of action? Why is it that avarice, revenge, jealousy, and the other motives so freely imputed to friends and criminals, are none of them feelings? Or if they did ask these questions, it is even more astonishing that they should have avoided the obvious answer —Because by motive we do not mean feeling or any kind of feeling. On this ground alone I think the doctrine that motive is feeling stands condemned.

But, it may be asked, if motive is not feeling and not (as a rule) intention, what is it? Before attempting to answer this question let us recall our position. The term motive, we saw, is only used in connexion with considered action, and that which is assigned to an act as its motive is in most cases not itself a choice or decision, past or present, general or particular; rather it is some tendency or bent of the will, and thus more general than any particular determination of

the will, though less general than habits of character such as cowardice or generosity. When motive is not a tendency of this kind, it is an intention, an end apprehended and accepted in choosing the means and the sole determinant of that choice. In this last case we were uncertain whether it was proper to speak of motive at all; but we were clear that there was no motive as distinct from the intention. In discussing the identification of motive and feeling we have really been discussing only the activity of the imperfect will, in which motive is distinct from intention; for in the good will there appears to be no element or agency extraneous to deliberation influencing its decisions.

Now in all action upon consideration what is chosen, if not necessarily a 'this-before-that,' is always a 'this-for-the-sake-of-that,' an act as a means to an end. What is considered is possibilities of action and what is chosen is an act. But that which influences the mind must be something in that which is before the mind; what influences choice must be something in the chosen. It is true that in some secondary sense the influence may be said to reside in a man's character, since it is from his character that his projects of action draw their attractiveness or repulsiveness. In the same way we sometimes trace the ready assent of one man to an argument which another rejects to some difference in their characters. Nevertheless, it remains true that it was because the project or the argument was what it was that they being what they were greeted it as they did. And when we infer from one to the other we infer in the first instance from the act to the character and not from the character to the act. For the act is to some extent plain and obvious to all, but the character is only to be guessed at.

It may therefore be presumed that when we impute a motive to an act we are inferring from something in the act (or more probably in the series of acts of which it is the latest member) to something in the character of the agent. From what in the act? The answer is so obvious as hardly to require statement—from the result which *de facto* it is likely to bring about. In order to arrive at the conclusion that a man is mean it is neither necessary nor usual to scrutinise carefully little signs of speech and gesture or to watch, like a novelist, the waves of emotion which leave their passing traces upon the agent's features; it is enough to know that in spite of countless differences of circumstance and suggestion the same general tendency may be observed in all transactions in which money is involved—to spend as little as possible. The delinquent, put upon his defence, may allege in each case the most irreproachable intention; and his

account of his deliberations may be substantially correct : yet he will not get his verdict. For in the court of moral claims the ultimate, indeed the only, evidence of character or motive is action ; and the only question which is or ought to be asked is 'what have you done ?'

From this it would seem to follow that the distinction between the motive and intention of an act depends upon a distinction between its actual or probable and its intended issue. ('Probable' rather than 'actual' because the standard by which we judge is the expectation which a fair-minded man of average intelligence would in the circumstances of the agent form as to the issue of the act.) But this distinction, we must now observe, is not present in all cases in which the motive is distinguished from the intention. For instance, in the case of a warning letter addressed to a friend, the intention is clearly distinct from the motive, friendliness ; but there is no dissidence of the probable and contemplated issue analogous to that observed in the economy of the mean man. Now the foregoing argument has assumed that a motive, in the sense of a disposition which accounts for the act, cannot as such be a factor in deliberation. But disposition or motive in this sense means a tendency in action to pursue a certain kind of end : meanness, for instance, is a tendency to keep one's wealth as far as possible intact. In a sense, then, all motives in this the usual use of the word are unconscious. But there is another sense in which some are conscious, some unconscious. The man who wrote the warning letter, let us suppose, reflected that as a friend he could do no less than warn Jones of the danger he was in. The motive, friendliness, was in that case represented by his awareness that the act was not simply the helping of a man in danger, but the helping of a friend in danger. The letter was in thought addressed not to Jones but to 'my friend, Jones' or 'poor old Jones'. Motive and intention are thus not contrasted or conflicting but the deliberate expression the one of the other. The Consciousness of a motive, then, means the attention to that in the act adopted which makes it of service to the realisation of the end which motive is the disposition to pursue.

We have now sufficient ground, I think, for accepting the propositions that motive is best defined by reference to end, and that the difference between conscious, half-conscious, and unconscious motive lies in the different degrees of clearness and obscurity with which the true nature of the act adopted is apprehended by the agent. Of course, it may be asked, how can a man be moved by an element in his choice of which he is unaware ? This is a real difficulty, but one

which goes far beyond the problem with which we are dealing. The same difficulty in a different form perplexes our consideration of the relation of thought to perception, and its solution would (I almost think) be the solution of the problem of error. The temptation is to fly for refuge to categories of causation, whose assistance is purely illusory. We are inclined to think that we have advanced the problem when, on these lines, we think of the Will as (so to speak) pushed from behind instead of drawn on from in front. In that way there is no salvation. Instead, we must in spite of every difficulty keep to categories of cognition. We must think of the unconscious motive as operating in and through apprehension. The act *is* suitable to one of those obscure purposes, which under the names of jealousy, avarice, etc., are alleged as motives: and that fact, though not reflectively distinguished, is none the less in some dim perceptual manner known and counted on. The will, not conscious of itself, is yet conscious of all that it enacts.

There is no longer any need for a sharp distinction between character and motive, or between the motive generosity and the virtue which goes by the same name. Action is character in activity and motive is that side of character from which a given act is more particularly thought to proceed. We have already noticed that in the perfect will (though not there alone) it is difficult to speak of motive as unambiguously as on the lower moral planes, and we have to some extent explained this fact by reference to what is ordinarily called the disinterestedness of such action. Our present point of view suggests a complementary analysis. In the lop-sided disharmonious activities of normal imperfect humanity, we see character moving, like an ill-made and ill-weighted ship, with much creaking and straining of timbers, uneasily and unevenly from point to point. In the vagaries of its wayward progress we trace a permanent 'list' to port or starboard—a persistent but unconscious motive. But if the boat were better made or better manned, she would complain less and effect more. There would be no list to port or starboard, no motive but wind and tiller. The image is no doubt inadequate; but what I mean it to suggest is this. The imperfectly developed character betrays in action a number of dimly apprehended tendencies, purposes which are not yet purposes in the full sense, which are unreconciled and indeed irreconcilable with one another: of these now this one and now that is the more prominent. In such a character, by a right and proper abstraction, inferring in the way explained from act to character, we refer now to one now to another element as the

motive of action; generalising further we see these motives issuing from habits of action to which we give names as virtues and vices; and finally by a yet wider sweep of generalisation we sum up the whole trend of action as character. Out of these chaotic purposes the hard necessity of living and the routine of life will of itself inevitably fashion a sort of unity, a single purpose. But it is for us by our conduct to decide whether the unity to which we move shall be largely dumb and unconscious like the purposes out of which it grows or conscious and self-expressing. The moral effort is the attempt to attain this harmony, in which the reflective determination is the expression, not of this element to the exclusion of that, but of the whole character. In the good will, the character, now one and indivisible, is poured out whole in action, and finds its unity, where alone unity is found, in knowledge. The good will only does what it intends and knows what it does.

Thus the moral motive is distinguished almost as sharply as even Kant distinguished it from every other motive whatever. But the distinction after all is only one of degree: the will in the individual, in the state, perhaps also in the world, slowly and painfully comes to the knowledge of itself, which is its goal.

Early in this paper I quoted from Thomas Hardy the poetic expression of the Unconscious World Will—‘the dreaming, dark, dumb Thing, that turns the handle of this idle Show’. I will now conclude with a quotation from the last page of his poem which suggests the hope that the Immanent Will is groping its way towards consciousness of itself.

Last as first the question rings
Of the Will's long travailings ;
 Why the All-mover,
 Why the All-prover
Ever urges on and measures out the droning tune of Things ;

 Heaving dumbly as we deem,
 Moulding numbly as in dream,
Apprehending not how fare the sentient subjects of Its scheme.

 Nay ;—shall not Its blindness break ?
 Yea, must not Its heart awake,
 Promptly tending to Its mending
In a genial germing purpose, and for lovingkindness' sake ?

 Should it never curb or cure
 Aught whatever those endure
Whom it quickens, let them darkle to extinction swift and sure—

 But—a stirring thrills the air
 Like to sounds of joyance there
 That the rages of the ages
Shall be cancelled, and deliverance offered from the darts that were,
Consciousness the Will informing, till It fashion all things fair !

V.—DISCUSSIONS.

ON THE DISTINCTION BETWEEN WAKING AND DREAMING.

UPON what principle we distinguish waking and dreaming is a problem which can be outlined symmetrically; there are two facts and two fancies. The facts, given for what they are worth, appear to be these: in waking we take dreams to be hallucinatory, but the standpoint of dreaming is not converse; and secondly, we are sharply aware of a contrast when we wake up, but not necessarily of a change when we go to sleep. The fancies seem, for once in a way, to be no more illuminating than the facts. A common distinction between waking and dreaming is made in point of vividness; but the usual addition, that it is the waking state which is to be the more vivid, shows the ambiguity of the test. In the terror *qui per tenebras repit* nearly every one notes a fine psychological opportunity, of stronger effect since waking life is less and less confronted with *pestes que palam spargunt mortem*. Dream-fear may or may not be interpreted as due to the likelihood that when the trees rocked the anthropoids would fall; but the intensity of the fear defies denial, and if the waking consciousness is to be the more vivid we shall—with Hume—have to explain rather urgently that ‘the force of our mental actions . . . is not to be measured by the apparent agitation of the mind’.

The other fancy is that dreaming is distinguishable because it is inconsistent. ‘Consistency’ may first be taken in its roughest sense, *viz.*, probability. Even if it is granted that all dreams are improbable, no line between waking and dreaming can so be drawn; thus, suppose I dream that I go for a bathe, and on turning to the bank again I see a hippopotamus—“That is what I mean,” says the opponent; “banal enough as a nightmare, but in real life—!” Well, in the hop-fields of Kent some quite credible constables, it was said a few years back, reported their cognisance of a casual pachyderm. Unbelief would have cordially vexed these officers. “Your dialectic,” the sergeant would have complained, “has been unjust to our elephant. In my profession men unlearn probability and its false ideals. A thorough-going mechanical system can never be complete; and a plot-interest, embodied in all events that happen, is never actual.” True; and his mention of a plot-interest recalls a marked feature of dreaming; for sometimes a dream-presentation,

for instance the landscape in a dream, has a singleness of expression informing the details, and an immediacy and self-justification, which waking experience does not easily rival. It does rival such qualities now and then, and in any case the discussion must not end so simply; otherwise the needed distinction might be found in the phrase *das Leben ist nicht ein Traum, aber es sollte einer sein.*

Consistency in a stricter sense forms a test applicable in three ways. A dream may be said to be inconsistent in itself; but in that case the standard either distinguishes nothing or confounds everything. If 'provisionally inconsistent' is what is meant, then many dreams are consistent. If ultimate consistency is intended, then all experience seems inconsistent; any spaced object, any timed happening, is still a fresh-springing comedy of contradiction—but there is no need to labour the obvious here. Another application of the test is this: dreams are inconsistent with our waking states. There is still left, no doubt, an obscurity—on what principle do we believe in which state? However, that point can be shirked; for in fact dreams are not always inconsistent with the waking state. Let me this time have a simpler dream: one night it seems to me that I lie in bed, and reflect on the difference between thinking and picturing; suddenly I do not remember what Kant says about schematism; I must get up and go into the next room where there is a *Kritik der reinen Vernunft* lying open on the table. I read a passage, and then, happy and mystified, I go back to bed; when I am in bed I hear the leaves of the book being turned by the breeze. Upon what principle do I later judge this to be a dream? "Why," says the opponent, "the electric light would show you if measurements were exact enough." Then let the occasion have been very early in the morning at midsummer, when daylight should not be denied even to a believer in Kant.

A Cartesian gives the third rendering: When we wake up, we are aware of a sudden change; and this gives us the clue for assuming two distinct states. Now, we notice that the state into which we change to-day is more or less connected with the state into which we changed on the previous morning—the instalments run on and on, hanging roughly together; but that other state, the one out of which we change, is on each occasion a lonely incoherency, without introductory or resumptive neighbours. So the waking state is coherent in a way, while our dreams are utterly incoherent.

By understanding consistency as 'more or less coherent resumption,' the Cartesian raises four questions. Does to-day's waking resume the waking life of yesterday? It does. Can waking take up a dream-story? and can dreaming take up the story of waking life? Unless it is impossible ever to mistake a past dream for a waking experience, I must say yes and yes. Can to-night's dreaming carry on last night's dreaming? The Cartesian must say Never. "Serial hallucinations!" he protests; "Once allow even

the possibility of them, and you will find no distinction between waking and dreaming'.

It is indeed plain that the two states are not yet distinguished; and the cause of the failure can already be suspected. From the isolated individual mind there may perhaps be elicited various sorts of subjectivism, but no kind of cognition. The discussion has paid the common debt of things Cartesian, and has followed the other unpremeditated proofs of the grand central truism that 'objective' means 'shared,' and that it is therefore a far cry to objectivity when we set out from the unshareable. Hence for a discernment of dreams the criterion is now indicated; I must appeal to more than one consciousness. What is dreamed by one is a dream; what is dreamed by several is cognition.

At this both the philosophers and the plain men are all displeased together, observing that dreams cannot so be distinguished. When dreaming, we often dream of people; thus, you may dream that some one blacks your eye. That is a sort of sharing. Further, we must at least allow for coincident dreaming: suppose A dreams that he blacks B's eye, and B simultaneously dreams that he has his eye blacked by A; the time, after lunch; the place, the High Street; the dispute, about Free-will. This is another sort of sharing. Lastly, let us imagine that after the coincident dream A wakes up with a light heart, and B with an unclouded eye; the two men happen to meet and quarrel—and this time B has his eye truly blacked. We have now noticed three kinds of sharing; and omniscience alone can tell how on the given principle they are to be distinguished.

It must be granted that the coincident dream was an embarrassing conspiracy of delirium; and this annoying fantasy was only a trial shot—there are trustworthy brickbats to follow. For, the philosophers will say, if two or three flat-earth men get together, must we not be haggard for the earth's sphericity? Or if majorities decide—used not the sun to go round the earth? And are not spaced things made up of tiny bits of hard stuff?—for many men think so, and some shamelessly say so. Objectivity—at least, your objectivity—is a function of concerted impudence; for if all men, or all but one, were decently dubious, nothing could be objective.

Let me for a time suffer the other missiles, and look at the last. The question is what do the philosophers intend when they call me impudent? It is not that they mind a layman trying to think—he ought, therefore he can (he can try, they mean); but they wish to point out a certain arbitrariness of process and result. When once a layman tries thinking, you cannot quite tell what will happen—whether, for example, he will be a circle-squarer, or perhaps will tie weights to his cycle-wheels 'to assist propulsion'. Also, misguided laymen may, and sometimes do, agree; so that you must not define objectivity as an agreement of thinking sub-

jects—for laymen can agree wrong, and metaphysicians cannot agree at all.

So far the philosophers make themselves clear; but when they suggest a decent dubiety, what is it that they want now? They do not want me to model my conversation on Lear's old lady of Prague. When a philosopher thumps a table, and demands of me "Is this a table?" he is least of all appeased if I answer "Perhaps". That is not modest scepticism, it is brazen eristic. He means me to say: "It is a visible table, and you thumped it most audibly". I find then that the philosophers' wish is double; they ask me to see in some things the possibility of debate, and in others the necessity of concord, even for lay thinking subjects.

This is good philosophers' sense—and typical philosophers' malice. They have smuggled away from profane notice the essential fact, *viz.*, that everything here turns on the sharp distinction between two aspects of thought—one primary, constructive, and 'automatic'; the other secondary, critical, and deliberative. Thus, in the well-known experiment of negative images,¹ the changing shape of the image clearly depends on an inference; but any experimenters, whether psychologists, children, or mammals² generally, will see similar changing shapes. They must, therefore, use the same inference³; but their secondary reflexion on the matter would be widely diverse—a psychologist bethinks him of impetuous polemic; a child remembers Pears' soap; a dog might have convulsions. It is the primary functions—*e.g.* the recognition-thought, and 'cause' and 'thing,' and so on—which put together the objective world; and, as reflexion protests, they put it together inconsistently. The primary thoughts do not, in ordinary consciousness, appear as thoughts at all. Reflexion exposes them, but it cannot reform them. Thus, 'cause' (as a primary) joins in a special way two bits in a time-picture; and, however reflexion may insist that in this special way I must either join all in all or not at all, it cannot check the primary thought, which imperturbably will so join some bits, and will not so join others. If I whistle a note, and during it a clock strikes, I cannot with any effort cognise these events either as cause and effect or as reciprocal action, though reflexion urges that in objectivity all must be connected, each detail with every detail. Reflexion has never done badgering the primary thought; if 'cause' would start, *e.g.*, as *causa sui*, and would go on as universal formula working both ways, and would end as *summum bonum*, there might perhaps be some sense in it! Amid the clamour, primary thought remains sweetly unruffled; and if there is a picture of two bits of hard stuff, 'cause' will transfer movement from one to the other with an engaging simplicity that drives reflexion into dreadful paroxysms.

¹Dr. Stout's *Manual*, p. 396.

²A guess.

³So (I think) Schopenhauer.

The result of the strife is the prettiest paradox possible. In primary thinking, where inconsistency is the work, a rigid concordance is obtained; either you cannot, or you will not be allowed, to walk through brick walls. In reflexion, where consistency is the aim, controversy is unquenchable; so, a blind deaf-and-dumb man is brought to share a common world with other people, and then he fights with them about Euclid. His squabble incidentally brings to notice another cognitive factor; *viz.*, picturing; the two ways of picturing will for the present purpose be regarded as perfectly distinct from either kind of thought, and will be classed as 'automatic,' in the sense that reflexion finds a difficulty in them, but cannot alter them.

On such a view, elementary cognition will imply only a rather special case of consistency, *viz.*, agreement in inconsistency. As regards the automatic factors, the subjects of cognition cannot be consistent, but they must agree. It will result that, if a man pictures communally, and thinks 'cause' and 'thing' and so on agreeably, then he may be a fire-worshipper or a circle-squarer, or a spiritualist, or a materialist, yet for all that he will be a fellow-cognisant.

This time we have cornered dreaming. Cognition in the virtual agreement of the 'automatic' functions of the subjects of consciousness; dreaming is their virtual disagreement. Thus let every one sleep under observation: now if A dreams that he blacks B's eye, he will be refuted by the watcher; and if B dreams simultaneously and conversely, the watcher will refute B too. Clearly, some one has been dreaming; and to decide which was the dreamer, the appeal is always to more subjects of cognition and their forced agreement. The watcher is the yawning hieroglyph of the waking principle.

"But suppose that when I am asleep in bed, I dream that I am asleep in bed; for when asleep we often say 'I am dreaming, and shall wake by-and-by'. Or, to take a simpler case, suppose that I always sleep with my eyes open, and at daybreak, while I am sleeping with my eyes on the window, I dream that dawn is lighting the window. I do not yet follow how your principle——"

Neither do I, to say frankly; and I am now racked by the riddle whether to be cheated is to be cheated, when the cheat is the same as the truth. Before I can make up my mind, the objector goes on: "You seem to need help. I am not an idealist myself; but I suppose vaguely that an idealist, when he sees a man awake, thinks the following thoughts: 'This is a subject of cognition. I do not mean the man that I see; that is a spaced object, and a subject of cognition is not a spaced object, nor in space-relation to the objects which it, or any other cognitive subject, constructs by spacing (together with timing and primary thinking). Still, I note that certain spaced objects are especially relevant to certain cognitive subjects; and in that case

such an object is especially symbolical to other cognitive subjects who construct it. Thus, when Y kicks Z's shin, each constructs a spaced shin, a shin symbolical to Y, and relevant to Z. So this man—this object which I construct in space, and in an interesting way too, a sharing way, with my primary and communal thought-reference, implying other subjects of cognition, and with our picturing schemes which for their part (but not without the primary thought) produce in each subject a different picture that yet is ultimately a picture of coincidence—yes, this man—this object which I construct, and so do they—this spaced object, I say, I take to be relevant to a subject of cognition; and the behaviour of the object is symbolical—I infer from it that the cognitive subject to which it is relevant, is engaged in constructing a common world with myself. And well he may be.' But on meeting a somnambulous man, the idealist changes his last thoughts into 'is *not* constructing a common world'! Now let us suppose that during sleep there is a contraction of some fibres in the brain-complex; and let us also suppose that by an accident A's skull and parts of his brain are transparent, and the fibres in question are shown in a magnified shape to common sight. When the idealist constructs A's brain-fibres as shortened, he will from this symbolism infer that the cognitive subject, to which those constructed objects are relevant, is not constructing a common world with him. Whereat, if A dreams that (in a mirror) he constructs those fibres so as to symbolise waking, he will be impeached by the idealist; and if A dreams that he constructs them so as to symbolise dreaming, he will convict himself."

Much estranged by this crude and tactless violation of a neat puzzle, I can do no more than gaze coldly on the objector and remind him of the wholesome rule that 'in idealism you do not talk about the brain'. Then I pull myself together for one last wild struggle.

Waking can include dreaming, but dreaming cannot include waking. In this way: imagine that I am drowsy after lunch; I know that the time is about two o'clock, and that I am in my chair; I hear people talking, and a gramophone vociferating—and yet I do most undeniably dream that I am reading a page of Homer, and that I cannot make out why *λέων* has been emended to *Κλέων*. The waking state is here the container, and the dreaming is part-content; for if I am wakefully to know that I dream, I must wakefully know that I wake. The other way differs; I am not awake when I only dream that I am only dreaming.

Hereupon all together, man, woman and child, are offended in the very principle of thinking, and exclaim deplorably, "Why, my dear, good, muddled person, you *can't* distinguish—" But let us catch the child apart, since he is more interesting to hear. "Godfather, is it wrong to dream that you steal?" Well, it might mean that you would steal, or had stolen. "You see, I

dreamt that I had had a dream that I took an apple and wasn't sorry; and I dreamt that I hated having had the dream. Ought I to be glad?"

Perhaps it is time to end the business. Adopting provisionally what the enemy would call a Kantian view—that we distinguish waking *vermöge eines Vermögens*—I can drop the subject and listen once more to the topics of serious speculation. However serious it may be, theory has at times the not unattractive look of a παιδία τῶν μαθημάτων. Yet in supposing that even so 'philosophy has something to do with life,' we shall hardly be unjust to the latter; indeed, *es singt von lauter Metaphysik—Ich hör' es sogar im Traum.*

J. A. J. DREWITT.

REPLY TO MR. RUSSELL'S EXPLANATIONS.

THE explanations offered by Mr. Russell in the July number of MIND have been read, I am sure, with interest by many readers. I unfortunately did not see the number at the proper time, but still I hope it is not too late to ask Mr. Russell to explain somewhat further; for in the main I am left still unable to understand. If, however, Mr. Russell should feel that within convenient limits there is no more to be done, such a position, so far as I am concerned, would call for no justification.

1. In the first place, my difficulty as to "unities" remains. Is there anything, I ask, in a unity beside its "constituents," *i.e.* the terms and the relation, and, if there is anything more, in what does this "more" consist? Mr. Russell tells us that we have got merely an enumeration or merely an aggregate. Even with merely so much I should still have to ask how even so much is possible. But, since we seem to have something beyond either, the puzzle grows worse. If I remember right, Prof. Stout some years ago stated the problem as attaching essentially to the fact of "relatedness". What is the difference between a relation which relates in fact and one which does not so relate? And if we accept a strict pluralism, where, I urge, have we any room for this difference?

2. In the next place, as to "implication" my troubles continue. If we have nothing but facts, I see no room for implication, and if we have anything more or less than facts, I cannot understand what this is. By all means banish possibility as real, but where among facts does implication fall? Is a disjunction with its "Either-or" an actual fact? Are "conditions" facts? Is "deducibility" a fact? With regard to facts I thought our attitude was one of "It is" or (perhaps also) "It is not". I do not in the least understand the position of "either-or" or of "can be" or "may be".

3. I urged against the possibility of a term being related to itself the fact that relation implies diversity, and I should like to explain my reason for holding to this fact. I do not proceed here by arguing downwards from some assumption or axiom. I proceed on the contrary by way of actual experiment. With any relation remove diversity (this is my experience), and the relation is destroyed. You have (I find) no relation left unless you also leave that diversity which you may have failed to notice. What I of course am forced to assume here is that I have correctly performed my experiment. If Mr. Russell on the other side says that he can

perceive a relation where there is absolutely no diversity about the terms, I do not see how we are to argue about our difference.

4. With regard to diversity, externality and mere fact, the assumptions (I do not call them such) which I make are as follows. I assume first that, where I get the unmeaning or the self-destructive, I have not got even the possible. And I assume that what is is, in the sense that, so far as I have truth and reality, I have not got something which is true and real merely because of something else. This second assumption, if it is to be called one, bears on the question of externality and mere fact in a way which I will explain.

(a) But, first, with regard to diversity Mr. Russell maintains, as I understand, that our only reason for denying the relation of diversity between a term and its own self is that this relation is not a fact. Whether Mr. Russell means more than that the relation has not yet been found, I am unable to judge. To myself on the other hand the above relation is not possible. To myself it either is meaningless or self-destructive. In making an ideal experiment I either have no diversity, or else the terms are different; and, when I suppress the difference, the relation is destroyed. I therefore deny this possibility, and I go on further to argue that any premisses from which such a possibility follows are false.

(b) With regard to externality and mere fact I should first explain that, in my opinion, these are things which are not and which cannot be observed. To have bare A in bare external relation to B is not possible in any observation or experiment. The supposed fact is really an inference reached by vicious abstraction. We saw above how "unities" and "implications," without which Mr. Russell apparently cannot move a step, involve always a something more which on his view seems inexplicable. And the same thing holds good with regard to any alleged perception of mere conjunction.

To myself the mere fact in which something seems to qualify A from the outside, is never really the whole fact. There is always here a condition left outside of what you take as the fact. Your statement is therefore true not of A itself but of A qualified by x . And hence the opposite of your statement is also true. On the other hand to say something about A which in no sense qualifies A, remains to my mind meaningless. In other words, no "and" which is purely external is thinkable. This is once more the point to which Mr. Russell is invited to address himself. The above is the ground of objection to externality and to mere fact. You want, that is, to say something about something, and not about something else, particularly when the something else is unknown. The demand for "intrinsic" relations I take to be an expression of this want, but I agree that here once more complete satisfaction is impossible. There is of course with me no question of any "axiom".

Naturally I realise that in this way doubt may be thrown upon

every possible conclusion, however certainly it seems to follow in ideal experiment. How are we anywhere to save ourselves from doubt arising from the presence of the possibility of an unknown condition? Have we not with every result a counter-possibility? This question in its turn leads to the inquiry whether the alleged counter-possibility is everywhere really possible. But I must not here digress into a defence of what I have argued elsewhere.

5. I have stated the main principle on which objection is taken to absolute externality and bare conjunction. I would go on to add that I am still in doubt as to the sense in which according to Mr. Russell relations are external. The terms are to contribute nothing, and so much I understand. But I still do not know whether Mr. Russell takes the relations apart from any terms to be thinkable. To be consistent he should, in my opinion, hold this view, but I cannot say that he does so. If all that is meant is that this or that term contributes no more than any other term, clearly, from so much, absolute externality and pluralism do not follow. On the other hand, a relation apart from terms is to me unmeaning or self-destructive, and is an idea produced by an indefensible abstraction.

6. I will end by noticing briefly Mr. Russell's contention that on his view we are less in conflict with science and with common sense. This is an argument which I am very far from undervaluing. In fact the doctrine which I hold I hold largely because it seems to me to remain, more than others, in harmony with life as a whole. I am speaking of course only of views which aim at theoretical consistency, and not of those where inconsistency and self-contradiction are of minor importance. But I could not on this ground compare the conclusions advocated by myself with those taught by Mr. Russell, because on the most important point I do not know what his conclusion is. To myself the things which matter most in life are not to be resolved into terms with relations between them. And I am ignorant as to what on this point Mr. Russell may really hold. The question is in a word as to experiences which, to a greater or less extent, are non-relational. Obviously, when I do not know whether and how far Mr. Russell denies the existence of such facts, or in what sense he admits them, it is not in my power to judge as to how far his views are in harmony with science and common sense, if I use these terms, that is, in anything like a wide meaning. This is a point on which some explanation by Mr. Russell would be welcome, I am sure, to others as well as to myself. We return here to the doubt as to "unity" with which we began. We have again on our hands the whole question as to sensible fact and as to all that is covered by the word *feeling*. I should perhaps add that, so far as I can judge, Mr. Russell's view as to the inviolability of "facts" would make indefensible the constructions in and by which the entire body of history and of natural science consists.

F. H. BRADLEY.

VI.—CRITICAL NOTICES.

A Commentary on Hegel's Logic. By JOHN McTAGGART ELLIS
McTAGGART, Fellow and Lecturer of Trinity College, Cambridge; Fellow of the British Academy. Cambridge: at the University Press, 1910. Pp. xv, 311.

WE have here before us in a complete form Mr. McTaggart's critical account of the various transitions by which Hegel passes from the Category of Being to the Category of the Absolute Idea.¹ The method of the Logic, and its "application to experience," he has discussed in previous works, familiar to all students of the subject. But now for the first time there lies before the reader, in lucid and vigorous English, a complete and careful interpretation, step by step, of the stages of the philosophical pilgrim's progress, as Hegel conceived it. I will observe at this point, once for all, that I am disposed to regret the severity with which Mr. McTaggart has restricted himself to the passages which he takes to contain the logical progression. Some lengthy arguments he justifies himself for omitting. But often, I think, a fuller reference to the context of the passages cited would have been both interesting and relevant.

One can hardly fancy that John Stuart Mill, if such a work had been in his reach, would have written as he did: "I found by actual experience of Hegel that conversancy with him tends to depress one's intellect".² It is some forty years since that letter was written; it is nearly a hundred since Hegel's *Logic* was published. The appreciation of great thinkers, especially of foreign thinkers, is a gradual and co-operative effort, and means a certain remodelling of the national mind, which takes place slowly.

I believe there is not in any language another exposition of Hegel's *Logic* so thorough and so clear as this. M. Noel's and Prof. Hibben's works, which Mr. McTaggart fully appreciates, are less critical and on a smaller scale. Wallace's studies are familiar to us all, but their merits are of a different kind. Only those who have paid much attention to the *Logic* can estimate the

¹The second, third, and three concluding chapters are based upon papers which have appeared in *MIND*. All of them, and especially that corresponding to the final chapter, have been a good deal altered, to a great extent by omission. This persistent effort towards conciseness is highly characteristic of the author.

²J. S. Mill's *Letters*, ii., 93.

acumen and the labour that have been devoted to the work before us; and the thanks and congratulations of students are due to the author in the highest measure. One obvious effect of his path-breaking activity will be to facilitate discussion, and he will not take it amiss if varying suggestions arise to group themselves around his central and classical exposition.

1. The topic of the fundamental importance of the *Logic* in Hegel's philosophy (§ 2) will lead us into the heart of the subject. I agree that the *Logic* is central in the system, and that if it were rejected the rest of the system would be destroyed; and further, I accept what I take to be suggested, that the small part which it has occupied in the work of students of Hegel is discreditable to their acumen, or to their courage, or both. But I do not agree that the *Logic* is so far separable from the rest of the system, and self-dependent, that it can truly be represented as a foundation on which the rest of the system depends without contributing to its stability. The sense in which the *Logic* is *a priori*, or depends solely on the notion of 'pure thought,' has been discussed by Mr. McTaggart in the *Studies in Hegelian Dialectic*, and is not before us here, except as implied in the opinion to which I am referring. I should prefer to express the relation by saying that the *Logic* is central thought, and the rest of the system is provincial or departmental. And I cannot hold that the latter is an application of the former. I take it to be common ground¹ that the progression of the *Dialectic* depends upon bringing to bear the mind, which is implicitly the whole, upon a single conception which is before it. This being so, it is surely not a matter of indifference how much of the explicit whole the mind carries with it, as its equipment for the work of interpretation. I do not mean merely that the *a posteriori* may furnish material for the *a priori*. I mean that the so-called *a posteriori* may assist both in moulding and in sustaining the so-called *a priori*; and, although in appearance more open to error and modification, it really bears this character because its content is so abundant as to survive alteration. The Philosophies of Law or of Religion do not seem to me to rest on the *Logic*. The structure of the Notion is in them, and they are able to support themselves, and, going to meet the central thought, to help in sustaining it as well as in moulding its corollaries. The ultimate determinant and foundation of every part is surely the whole; and you cannot rule out any of its provinces from participation in these functions.

This does not in any way detract from a recognition of the value and prime necessity of thorough dealing with the central thought as such. It is the abstract assertion of what a Universe must be, and if it were overthrown (not merely not yet formulated) we could make no predictions of the universe.

From this question of the importance of the *Logic* we naturally turn to its uniqueness. Many great philosophers have dealt with

¹ *Studies in Hegelian Dialectic*, § 32.

philosophy as a kind of pilgrim's progress. Is the *Dialectic* disparate with all these systems? We wish well to the *Dialectic*, but we do not wish to be deprived of every other philosophy. The most influential Idealistic metaphysic, apart from Hegel, does not run quite in the grooves of his *Logic*, yet has a general direction emphatically the same. Take any minimum of experience; work out its implications; and it will bring you to a central and concrete view of things. So Plato surely taught, and many since him; so e.g. Mr. Bradley teaches to-day. Does Mr. McTaggart say the same, or anything reconcilable with it? Here we may recall the view of the *Studies* that the *Dialectic* is not so much a chain as a continuous flow, and that its nature might be exhibited in the relation of the larger divisions alone. You might, for example, as I understand, argue upon the connexion of Being, Essence, and the Notion, without being disqualified if there is somewhere a minor link which you do not expect to fill up convincingly. In view of this there is significance in the author's readiness to criticise and to omit; or again, to affirm a transition without finally establishing the local link.¹ His large omissions, it should be noted, are sometimes in agreement with the *Shorter Logic*. It is to be wished that when he finally produces a revised *Dialectic* he would indicate what he holds to be its relation to the general and classical argument of metaphysic *a contingentia mundi*, as above referred to.

Turning to Hegel's own estimate of the *Dialectic*, we are told in the Introduction (§ 5) that he exaggerated both its objectivity by thinking that no other valid chain of dialectic was possible, and its comprehensiveness, by thinking that its conclusions applied not merely to existents, but to all reality. I shall return to the question of comprehensiveness. As to that of objectivity, I should have thought it right in principle to hold that there cannot be two sound proofs of the same conclusion which are irreducibly different. To deny that this applies to the dialectic tends to make it seem exceptional and arbitrary, a tendency which I deprecate. I shall return also to the question of purely external relations, the impossibility of which Hegel assumes in the *Dialectic*, and ought, the author considers, to have proved beforehand.

2. Before speaking of the general results which the author draws from the *Logic*, it will be well to note shortly the main modifications of the argument which he proposes, and his most striking interpretations.

In view of the impeachment of Hegel's mathematics, he urges (§ 48) that the main object of the *Dialectic* is to get to the Absolute Idea.² If Hegel is wrong in thinking that his Categories of Quan-

¹ So far as I see this is the case in the transition from Life to Cognition (§ 277). The author no doubt holds that the local link can ultimately be supplied, but he holds it, I imagine, owing to the relation of the nature of "Cognition" to the general demand of the *Dialectic*.

² This is very characteristic of the author, and should be noted with a view to the later argument.

tity are good mathematics, then he has failed in accounting for mathematical ideas. But to do this was not his leading object, though no doubt he thought he was doing it. If the dialectic chain is sound, from link to link, it would still help a skilled mathematician to judge rightly about mathematics, even if Hegel himself has judged wrongly. The answer seems good in general, though it involves a divorce of the lower categories from experience, which is necessary owing to the abstractness of the treatment, but dangerous, I think, as a principle.

This seems the right place to observe upon the author's attitude to Hegel's treatment of the infinite progression. He holds that an infinite progression is not in itself a contradiction, and that Hegel never said that it is, but always shows a special reason when he pronounces one contradictory. As to Hegel's opinion, can the words "Der Progresz ins Unendliche ist überhaupt der Andruck des Widerspruchs, hier desjenigen," etc.,¹ be brought into agreement with Mr. McTaggart's interpretation? And on the merits, if the infinite progression is offered as the solution of a problem, which I understand to be the case *ex hypothesi*, does it not necessarily contradict the claim to completeness inherent in the demand for a solution? In the example which the author gives (§ 70) from the category of the Measureless, it is worth noting that Hegel points out in the *Shorter Logic* (*Encycl.*, 110, note) that this Category is something more than an ordinary "wrong infinite".

The *obiter dictum* that Hegel is never at his best when criticising Kant (§ 47) seems to me to reveal a certain enjoyment which the author finds in shocking the Hegelians. I should certainly demur on behalf of the *Rechtsphilosophie*.

The author rejects *in toto* the triad of Quantitative Ratio, and proposes a substitute for it (§§ 71-72). It is impossible to do justice to his argument here; but I may say that he hardly seems to me to make enough of the raising of a datum to a system which implies a quality, in the absorption of quantum in ratio. He complains e.g. that Hegel treats ratio as a quantum, which it is not (§ 66). But I suspect that Hegel meant to indicate that quanta in ratio cease to be quanta and so come to be on a level with their ratio. When a newspaper prints 5 per cent. as £5 per cent. it commits the error of taking a quantum as entering into ratio, and illustrates negatively the transformation which ratio effects. The author's proposed triad, it seems to me, does not so much show quantity becoming qualitative, as postulate that at a certain point it shall be accompanied by a quality. This matter of continuity will meet us again.

"The whole of Hegel's treatment of Measure is invalid" (§ 75).

This treatment most people would set down as one of Hegel's successes. The main objection is that at the end of Quantity he has only reached the idea that the members of every Quantum must

¹ *Greater Logic*, i., 254 (ed. 1841).

have a quality in common; while the idea which he uses at the beginning of Measure is that a quantum is *the amount of a quality* which according to its amount determines another quality. But after passing through "intensive quantum" must we not be ready to use the latter idea, *viz.*, a single quantity of a quality, whose units are qualitative degrees, rather than the idea of a quality shared equally and alike by all the units of a number? I should have thought that the more and less of quality should have come in at a much earlier stage, before explicit quantity or number. But this last sentence is a criticism on Hegel and not on Mr. McTaggart.

In the development of Measure there is a remarkable instance of the author's belief that categories may be omitted as erroneous without interrupting the flow of the dialectic. He condemns and would dispense with the entire "loop" from Rule to Elective Affinity, which is absent in the *Shorter Logic* (§§ 81 and 94). Of course if the links omitted are erroneous, they are *a fortiori* unnecessary. But the interesting point is that the nature of the series should be such as to render it arguable whether ten links inserted by its originator are erroneous or not. It is plain from this that the continuity is more important than the gradations. I am inclined to think that the category most incriminated, that of "specifying measure" in the narrower sense, might be defended. You want to exhibit the object itself as determining the quantity of a quality, and you assume an identical external source merely to help you in stating the point that this determination is differential in different objects (*cf.* § 81).

Noting the admirable account of the transition to Essence (§ 93), we pass on to observe the important caution as to the implications of the terms Essence and Appearance, which are not to be taken as what is real in contrast with what is merely apparent. Both belong to the nature of the thing as viewed at a certain stage, and neither is more or less real than the other. The author proposes to apply to them the terms Substratum and Surface respectively (§ 99). "Appearance" as opposed to Reality, in Mr. Bradley's sense, would apply, I suppose, to all the categories short of the Absolute Idea.

Now let us turn to the concluding Categories of Essence, which Hegel speaks of as exhibiting more particularly the 'genesis of the notion'.¹ Here questions arise affecting the author's attitude to the continuity of the *Dialectic*.

From Substance and Accident Hegel proceeds through Cause and Effect to Reciprocity and the notion; gradually removing the one-sidedness of the way in which things affect each other, and exhibiting its passage into the nature of a system of totalities, all in each and each in all, which is characteristic of the notion. A link in this series of transitions is the identity of Cause and Effect. This

¹ *Greater Logic*, iii., pp. 6, 310 (ed. 1841).

identity the author denies, noting the interest of the point, and supporting his view at some length (§ 178 ff.).

I do not think he gives weight enough to the consideration, which Hegel, from his reference to "Zufälliges Beiwesen" in the cause, evidently had in mind, that if we are to exclude irrelevant elements from the cause we are forced to cut down concrete factors of it into abstract connexions. Of course, in ordinary speech about causation, we constantly neglect to do this, and so leave cause and effect standing as separate and successive events. And this usage is good enough for many purposes if we know what we mean; but such usage does not give an account of unconditional causation. And the same consideration would destroy the formidable objection that if, in the causal chain, two proximate links are identical, then all must be identical from end to end—for what are the same with the same are the same with each other. For in relevant Cause and Effect we are dealing not with a chain but with a complex; and you cannot find a chain to which to apply the argument except by tracing forward a factor arbitrarily selected from the complex; and then of course the identity is lost; but the causal relation is lost also.

I have referred to this discussion partly to introduce a consideration with which I am very strongly impressed on re-reading the *Logic* with Mr. McTaggart's commentary. Hegel, with all his profound insight, was in many ways extraordinarily literal and naïve, and this shows especially in his examples. To be fair to his thought, one would have to interpret him almost with the freedom which is necessary in dealing with a writer like Plato, whose genius wholly outruns the knowledge of his day. It is quite true that his examples here (and so also later on in maintaining the incompatibility of different predicates, § 215) do not carry out his intention.¹ They do indeed establish a continuity, which I suppose Mr. McTaggart would not deny. But to bring out the real point, which Hegel evidently divined, examples from scientific analysis are necessary, while Hegel uses the first crude facts he can think of. I believe therefore that his meaning, in matters of this kind, can be better represented by examples after the manner of Lotze or even Mill, than he has represented it himself. The same remark applies to the question of the inconvertibility of the proposition A (§ 207), and that of falsity of the positive judgment (§ 193), and to the whole problem of the place of mediation in Judgment and Syllogism (§§ 226-227). It is quite true that Hegel shows no way out of the detached and external manner of handling predicates

¹ One, the relation of will to action, is evidently *too good*, i.e. it is drawn from a sphere in which the identity of cause and effect is restored at a higher level, *cause as well as effect* being spiritual. When cause is physical and (so-called) effect is spiritual, the relation, as Hegel is surely right in saying, is only to be admitted "in uneigentlichem Sinne," i.e. as stimulus and response or something of the kind.

which is habitual in Formal Logic. But his profound remark on the nature of the copula (*Greater Logic*, iii., 72) shows that he was quite aware of the inherent reciprocity of the Judgment.

We saw that from Substance onwards we were dealing with the Genesis of the notion.

What, we may now ask, did Hegel mean, by giving the name of Subjectivity to the first division of the notion, consisting *prima facie* in a treatise on Formal Logic, between Reciprocity at the end of Essence, and Mechanism at the beginning of Objectivity? As Mr. McTaggart points out, anything like knowledge or consciousness comes very much later in the series, and moreover the *Dialectic* deals with predicates of reality, and not with mental processes.

His answer to this question, already familiar to readers of MIND, is characteristic both in its definiteness and in a certain exclusiveness. Should I be far wrong in saying that Mr. McTaggart is one of those robust thinkers who hardly consider a statement worth making unless there is a strong *prima facie* case against it? In this I do not refer to his view that Subjectivity here means contingency, but to his assertion that in Hegel, and consequently here, it means with one formal exception nothing else (§ 183).

The first part of the logic of the motion is called Subjectivity, he says, not because it deals with the working of our minds—a meaning excluded by the reasons given above—but because it describes a characterisation of reality which is contingent and capricious, abstracting, as formal logic does, from the relative importance of predicates, and simply emphasising the facts of formal classification by similarity. Except in some titles of the *Greater Logic*, he says (*i.c.*, footnote), this is the only Hegelian usage of subjective and subjectivity.

The author's absolute veto on treating this section as concerned with mental processes is, I take it, sound and necessary. In a very different way, Wallace and Noel gave the same warning. But in denying that Subjectivity as a rule throughout Hegel means and refers to immensely more than superficiality or contingency, he has really very much against him.¹ I do not doubt that he has considered it all, and struck a balance that contents him. I only point out my difficulty in a word or two. Hegel's transition from Reciprocity to the notion, which the author rejects (§ 187), implies that in Reciprocity the notion has been brought to its appropriate form, not, of course, as a mental process, but as a logical structure. This form, Hegel appears to me to be constantly saying, is Subjectivity,² the self-complete organism, so to speak, of the notion.

¹ I may refer to *Studies*, § 40, where Subjectivity is the mainspring of the notion.

² A convenient reference is *Encycl.*, 192. This is only a lecture-note, but it merely puts in a nutshell what Hegel—I should have thought—is perpetually asserting or implying (*cf. Studies, i.c.*).

And the emphasis of his reference to the transition from Substance to Subject, which coincides in the *Dialectic* with what he calls the "Genesis of the notion," I have always supposed to mean the same thing. The transition from Subjectivity to Objectivity he actually compares with the argument from the notion of God to his existence.¹

I see no difficulty in combining this suggestion with Mr. McTaggart's view, by observing that the notion in Subjectivity, though already in its proper triple form, takes the Universal as a mere common quality, and so represents a highly superficial characterisation of reality. In this way we should retain the notional form as the mainspring of the dialectic movement (*cf.* § 234); and while Mr. McTaggart's distinction of classification from determination would be substantially upheld, we should not regard them as absolutely incommensurable but as continuous forms of identity or of the universal, which tend to run into one another.²

Very many more interesting questions of detail demand treatment, *e.g.*, the criticism of Hegel's criticisms of the *Laws of Thought*. In these, again, I should have tried to exhibit Mr. McTaggart's Puritan correctness of judgment, as, to my thinking, not wholly doing justice to the inherent logical demand—what you ought to mean by a statement if it is to be worth making. But it is time to pass to more general problems.

3. At starting we referred to the question whether the *Dialectic* is as comprehensive as Hegel thought. Does it apply to what is real but not existent—such as propositions and their terms, and possibilities, or to existents only? And, a question raised at the same point (as I understand § 6): Are there purely external relations? Mr. McTaggart holds that in both cases Hegel ought to have furnished a preliminary disproof, which he has not attempted.

It seems to me, as regards the first question, that the *Dialectic* naturally and *prima facie* deals with all reality; and ought, within itself, to explain the relation between existence and any reality which partly (or wholly if that is possible) fails to appear in existence whether in person or by proxy. Any one who holds that there is reality which forms a disconnected world, or disconnected being, such that a treatment of existence and a treatment of that world are not logically linked and need not go together, has, I think, the *onus probandi* upon him. If reality is a universe, the natural assumption is that all of it must fall within any treatment which consistently develops it from its minimum. If this is im-

¹ *Greater Logic*, iii., 168.

² This becomes important in estimating the author's argument (§ 270) that in "Life" there cannot arise inadequacy of the individual through failure to manifest the idea of the kind, because the universal in "Life" is a system, while the universal of a kind is a class concept. "If all lions but one were annihilated, the survivor would be none the less a lion." Is this tenable? Would it be true of a man?

possible, and there is a second disconnected world, the impossibility should be exhibited by the believers in that world.

So, I should say, with external relations. The *Dialectic* takes us over the whole genesis and ground of relativity, and attempts to examine all typical wholes within which relations can have being. Of course its completeness is open to be upset by argument; but till that is done, and it is shown how and in what sort of whole an external relation between its terms could find place, I think the general examination holds the field. I incline to believe, therefore, that the author, with an impartiality laudable in itself, has conceded too much to *prima facie* claims.

Recurring now to the question of Comprehensiveness, I should like to expand it in a sense which will lead up to the fundamental problem of the Absolute Idea. Whether or no true of existents only, are all the conclusions of the Dialectic true of all existents, or do they transcend the nature of some? Mr. McTaggart readily recognises that some of the Categories—lower or higher as may be—come nearer than others to the apparent nature of some existents. *Prima facie*, that is to say, there appears to be distinctions of level between things; there appears to be, for instance, an inorganic, and again an organic world, and bodies which are not all spirit, unless spirit is more inclusive than we commonly suppose. To these, if the comprehensiveness of the Dialectic is to be compatible with the survival of a concrete world, the higher Categories would apply, so to speak, negatively, as revealing the inferiority of their rank and position in the universe. Yet they would have substantial being as appearances of the real, and their contribution to the Absolute Idea would be distinctive and actual, and not a mere illusion to be lost in the ascription of a nature beyond their appearance.

If I understand him rightly the author decisively rejects this conception. For him all the Dialectic is true of all existents, and, consequently, everything is a mere illusion in so far as it does not appear with the character which the Absolute Idea represents. This seems to me different in principle from saying that everything is transformed in the Absolute. For, on this latter view, things are transformed through and by reason of a special nature which makes a special contribution to the whole. Externality, in short, though not real alone and *per se*, is an appearance which is necessary, and has its special part to play. But, on the author's view, if I grasp it, we have, in a word, extreme panpsychism. The Absolute Idea, *per se*, holds of everything as such, and not merely of the whole.

Or could we come to terms at this point? Is it open to discussion how much, so to speak, of the apparent universe is required to constitute a single existent such as finds its truth in the Absolute Idea? Then there might be room for distinctive being on the part of apparent existents which would only enter into and not *per se*

constitute such a true and ultimate existence—which could not, I mean, claim the nature of the Absolute Idea for themselves, but only in virtue of a whole to which they belonged.

4. Disregarding this latter suggestion, we are brought to the question which I think is ultimate and fundamental in the author's philosophy and in his view of Hegel. It is stated with perfect lucidity and fairness in §§ 290-291. I put it roughly for reasons of space. Is the Absolute Idea just the process of the Dialectic, or has it a determinate content of its own, outside and free from the process, which is then merely one of our inference? Hegel seems, as the author shows, to say quite clearly both these things. The author, as clearly, chooses the second and rejects the first. I feel certain that we must have both, and that the test of a philosophy lies in its power of combining them.

The author's argument is strong. The Dialectic process, he urges, need not and cannot enter into the Absolute Idea. The process involves contradictions which depend on defectiveness of content. At every stage some defect and with it some contradiction is eliminated,¹ and in the end a content is attained in which neither defect nor contradiction survives. This is the content of the Absolute Idea, and the author cites from Hegel (*l.c.*) descriptions of it as it is in its own nature.

But granting this in principle, granting that the appearances of the pilgrim's progress are not taken up as they stand into the Absolute Idea, yet must not the Idea live in its appearances? How else can it appear, and does not Hegel's argument hold good, that if you try to begin with the truth, you will find it impossible to dispense with the defective approaches to it?² I take it he means that without these the content of the truth itself would be pared away to vanishing point.

We may take as a test case the relation of the two stages of "Cognition" to the Absolute Idea. The succession is, in a word, that first the Universal is seen to be the determinant; then the Individual; then, because both alike, therefore neither. Is this to mean that we end with a static harmony? Surely not. It must mean that something is really determinant which lives and is one in a real difference. "Knowledge" and "Volition" must not be names for acquiescences, but for energies in a tension; and the Idea must transcend them by being a satisfaction of effort and not its absence.

This real survival of the inferior existents and of their processes as contributory within the Absolute Idea, is, I think, logically sound, in spite of the author's argument, for a conclusion in Logic can

¹ Space has failed me to deal with the author's elimination of the Category of "Widerspruch" (§ 118) and of the immanent contradiction in "Life" (§ 268). Even if untenable, which I doubt, these throw light on Hegel's conviction.

² Cf. *Encycl.*, 82.

never contain its full meaning if wholly severed from the proof, and, however corrected, the inferior Categories must remain at once inferior *per se*, and contributory to the Idea. And this would make a difference to the whole content of the author's reading of Hegel, and, perhaps, to his own philosophy, especially to the problem of Time and Eternity. If the inferior existents and the process which they make inevitable are accepted as indispensable appearances of the Absolute Idea, and actually necessary to its content, all such questions assume a different aspect.

For the rest, his interpretation (*l.c.*) of the well-known and extraordinarily difficult passage in which Hegel speaks of the notion in its perfection as " *qua* Person, impenetrable atomic subjectivity," is familiar to students from his work on Hegelian *Cosmology*. Its point lies in construing this "atomic subjectivity," not of any single being who forms the Universe, but of Individuals who constitute differentiations of such a being (§ 295). It is one of Mr. McTaggart's audacious assertions that both Hegel and Spinoza disbelieved in the personality and consciousness of God (§ 168). I call it audacious, not because it is untenable in the letter, but because it is thrown out without a guard against the suggestion of something beyond what we call personality and consciousness. But I do not doubt that as a minimum the result he draws from the *Dialectic* both represents Hegel, and is sound in itself. "All that exists forms a Universe composed of Individuals" (I do not see that the individuals need be permanent or similar); "the Universe and each Individual is an organic system, and the relation which exists between the Universe-system and each of the Individual systems is one of perfect harmony" (§ 292). The nature both of this harmony and of the ultimate unity which includes the individual systems is left, as I understand, an open question by the *Dialectic*.

Mr. McTaggart just refers in conclusion to the results reached in his *Studies in Hegelian Cosmology*, pronouncing it impossible to decide whether Hegel would have assented to his view that the Absolute is love. One would be inclined to suggest that a good deal more than this must go to it, and that among single conceptions it is Religion that must come nearest to indicating a state of consciousness that can exemplify the Absolute Idea. When Hegel speaks of Philosophy in that reference, I take it that the idea of Religion is implied. I am not suggesting that either of these or both together can actually fill the place. But they present themselves as more capable than other conceptions of symbolising the fulness of experience which it demands.

I wish at the end of this notice to reiterate my judgment that the present work affords a basis, such as has not existed before, for the effective estimation of Hegel's philosophy. My own comments, for instance, such as they are, have only been made possible by the lucidity of Mr. McTaggart's work. It needed a rare

courage and confidence to devote, as he reminds us that he has devoted, twenty-one years of his life to the exposition of Hegel's philosophy. And the result is that he has done what perhaps no one else could have done, and what certainly no one else has approached to doing. It is interesting to learn that for all his judicial attitude he is convinced "that Hegel has penetrated further into reality than any philosopher before or after him" (§ 296). It is to be hoped that he will himself undertake the independent investigation which he foreshadows in his closing sentences.

BERNARD BOSANQUET.

Mysticism in Modern Mathematics. By HASTINGS BERKELEY. Oxford University Press : Henry Frowde, 1910. Pp. xii, 264. 8s. net.

MR. BERKELEY thinks that, as when the Pythagoreans were the foremost mathematicians, so even now the philosophy of mathematics has not wholly freed itself from mystical implications. This is, of course, a psychological question, and Mr. Berkeley believes (pp. iii-iv) that it is in general the case "that all ratiocinative processes, no matter what the subject, in which the current and continual substitution of symbols (of any kind) for concepts is a prime condition of the effective conduct of the process, are provocative of that attitude of mind" (*cf.* p. 5). Pragmatism in philosophy may be characterised (p. iv) as "a methodical and determined attempt to rid philosophy of mysticism," and Mr. Berkeley attempts the work of purgation of certain mathematical doctrines—that of the imaginaries of algebra and geometry, and that of metageometry.

The book is divided into three parts : Part I. (pp. 3-49) deals with thought and its symbolic expression, Part II. (pp. 53-147) with imaginary quantities in algebra and imaginary loci in geometry, and Part III. (pp. 151-258) with metageometry. The first part contains an endeavour to arrive at a clear understanding of the mental attitude and processes involved in the use of language and of symbolism in general, both as a means of intercommunication and as an instrument of reasoning (pp. 4, 250). This part is an extremely interesting psychological discussion, and contains, what will interest mathematicians and other students of what is called "Universal Algebra" (*cf.* pp. 74-76), a criticism (pp. 36-48) of Prof. Stout's well-known theory of substitute and other signs. Prof. Stout's distinction of words and substitute signs is, according to Mr. Berkeley, too trenchant: there is community of function of such signs as well.

Fortunately the advance of symbolic logic has removed from the region of controversy such questions as that whether ordinal conceptions are necessary for the definition of cardinal numbers. Hence Mr. Berkeley's remarks on the independence of the concepts

of (cardinal) number and order (pp. 53, 55) are now superfluous. Of course, it must be remembered that psychological details about the origin of the number-concept and its close association with the concept of order are irrelevant to the logical questions of arithmetic, though they are often interesting as accounting for certain views held by Helmholtz, Kronecker, Dedekind, and Cayley.¹

Mr. Berkeley's explanation (pp. 53-56) of what he calls 'number,' and what mathematicians now call 'cardinal number,' is that it is "a certain exact likeness, or identity, . . . which is the concept or abstraction" obtained by comparing various aggregates—that is to say, extensions of concepts—which have a (1, 1) correspondence with—or, as Russell, following Dedekind,² says, are 'similar' to—one another. Common sense has no doubt that there is such an entity as abstraction professes to discover, but the chief advantage of Russell's definition of cardinal number is actually to point out such an entity. Certainly, we may, it seems, choose different entities, each of which would answer the purpose of "the cardinal number belonging to all the classes similar to a given class u "; thus, for all that appears at this stage, we might choose a definite class—say the class of certain ordinal numbers—out of each class of similar classes and consider it as *the* cardinal number of those similar classes. This definition would have the disadvantage of unnecessarily making the definition of cardinal numbers logically subsequent to that of ordinal numbers, and is also subject to certain objections arising from Russell's "Theory of Types";³ but it satisfies—which Mr. Berkeley's and most people's definitions do not—the requirements of logical definition, and is analogous to Russell's⁴ definition of the so-called real numbers.

In the note on page 54, Mr. Berkeley asserts that "no significant definition of the name or symbol of a number can be given without the aid of other number symbols or names whose meanings are already known". This implies that some number symbols are indefinable, an opinion which is now known to be incorrect, since the cardinal number of a class u , can be defined in terms of u , similarity to u , and the notion *such that*.

In the same note, on pages 54-55, Mr. Berkeley objects to the opinion⁵ that each cardinal number can be defined independently of all the others—"a surprising feat if the conceiving of numbers involves the conceiving of identity [Russell's 'similarity'], and hence also of non-identity, between aggregates". The ancient argument that the conception of a thing involves the conception of

¹ Collected Mathematical Papers, vol. v., pp. 292-294; vol. xi., pp. 442-443. Cf. also E. Schröder, *Algebra und Logik der Relative*, Bd. iii., Leipzig, 1895.

² Cantor says 'equivalent with'.

³ Amer. Journ. of Math., vol. xxx., 1908, pp. 222-262, and Rev. de Métaphys. et de Morale, t. xviii., Mai, 1910, pp. 263-301.

⁴ The Principles of Mathematics, vol. i., Cambridge, 1903, pp. 270-275.

⁵ Cf. L. Couturat, *Les Principes de Mathématiques*, Paris, 1905, p. 52.

its negative does not seem to me valid : we can certainly conceive of an entity and certainly not of a non-entity. Mr. Berkeley objects (p. 55 n.) to Russell's definition on the ground that it "would certainly not in general be admitted as defining *the* number of a given class or aggregate". That other definitions of 'the cardinal number of u ', which have the same merits as that of Russell, may perhaps be given, we have already remarked ; but we hardly think that Mr. Berkeley had such definitions in his mind. His objections would seem rather to have their origin in the instinctive and unanalysed revolt of common sense against the statement that a number is a class. And yet, the fact of this revolt is quite inadequate to meet the uncontroverted arguments of Frege and Russell.

Mr. Berkeley then decides (pp. 62-63) that Stallo's condemnation of the custom of considering algebraic symbols indifferently as symbols of number or of quantity has no real basis, the numerical unit being indistinguishable save in name from the unit of purely abstract quantity.

Mr. Berkeley earns our gratitude by emphasising (p. 56) that "neither names nor mathematical symbols . . . are necessary in order to form concepts of number, nor are they indispensable for the effective and ready use of these concepts in the process of reasoning, so long as the process does not overpass a certain degree of complexity". And one of the objects of the first part was (p. 250) to insist upon the necessity, in epistemological considerations, of keeping a firm hold of the distinction between the process of thought and that of its symbolisation, a distinction which the perpetual use of the symbol as a substitute sign is for ever tending to thrust into the background. It was the neglect of this distinction between sign and signification that seems to have been the origin of the nominalistic theories of number of Helmholtz, Kronecker, and of those many mathematicians who are criticised most explicitly and lengthily in the works of Frege. In this protest, psychology and logic join ; "the fact," says Mr. Berkeley (p. 56), "that we are taught to count by the aid of names from a very early age, and thus learn to think about numbers by means of symbolic instead of representative imagery ; and the equally if not more important fact that we retain in memory little or no trace of the mental processes through which we originally elaborated the simple, fundamental, primary conceptions which are the common property of all men—these facts tend in many minds, and not least in the most educated, towards a practical obliteration of the distinction between numbers and the symbols, verbal or mathematical, with which we have been taught to associate them". Again, on page 99, Mr. Berkeley points out "the absolute necessity, in expounding the principles of any system of symbolising thought, of never allowing the distinction between the process of thought and the process of symbolisation to lapse from the mind, however convenient for

brevity's sake it may be to refer to the symbols as if they were one and the same with that which they are intended to symbolise. Once the principles are understood and agreed to, the necessity is no longer imperative but incidental." In fact, many eminent mathematicians have committed an error analogous to that of confusing between the town Paris and the sign 'Paris,'¹ and imagining that the town referred to consists of five letters.²

Mr. Berkeley characterises (p. 64) as 'mystical' the process, used by Cayley when dealing, in 1883, with the doctrine of imaginaries in mathematics, of explanation of the derivation, from a primary conception (such as that of quantity or of space), of another conception, followed by such questions as: What is, or what is the nature of, this derived conception? (see also pp. 130-131). Such expressions as 'imaginary magnitude,' 'imaginary locus,' 'homaloid and curved space,' do not (p. 65), in Mr. Berkeley's mind, evoke modifications of his conceptions of magnitude, locality, etc., while they seem to him to be, for modern mathematicians, expressive of such modifications; and the criticisms in the chapter on "The Doctrine of Mathematical Imaginaries" compelled him "to assume, as at least probable, that mathematicians do not, in fact, attain to these alleged modifications or extensions of the ordinary ideas of magnitude, locality and space; and that, where they believe that they do so, that belief results from an illusion of judgment as to the part which symbolism of any kind plays in the development of a process of reasoning; in other words, is the result of a tendency to mysticism of which they are unconscious, or not sufficiently conscious" (p. 65).

Thus, dealing with the construction, quoted by Cayley, of the radical axis of two circles, which passes through the points of intersection, or, if the circles do not intersect, is said to pass through "the imaginary points of intersection," Mr. Berkeley says (p. 71): "The geometer perceives, in the construction common to the two opposed cases, a certain analogy; and this analogy is paradoxically, or by a violent metaphor, expressed in the statement that the line always passes through the intersections, real or imaginary, of the two circles. But then, so far as the expression 'imaginary points' alone is concerned, this is the philosophy of the matter. We require nothing more, save to recollect that we have expressed a real analogy by means of a verbal paradox, and that we must be careful, especially in the development of such an unusual mode of expression, not to lapse into the mystical by subsequently trying to read these expressions as if they were literal" (cf. pp. 129-130).

Here we may remark that Mr. Berkeley assumes (p. 69) that a philosophical inquiry about a notion is an inquiry into its origin

¹ We follow Frege in distinguishing the sign by single inverted commas when we wish to speak of the sign itself and not its denotation.

² Cf. my articles in the *Mathematical Gazette*, vol. iv., 1908.

and derivation. But many important logical questions about a notion (*e.g.*, the definition of a complex number) are not answered by an historical or psychological investigation. Still, this fact is so obvious that we suppose that Mr. Berkeley uses 'origin and derivation' in a logical, and not in an historical sense. But this should be made plain: misunderstandings readily arise here, and the confusion of what is true with what people have thought or think is true is very apt to be made by pragmatists.

Mr. Berkeley criticises very minutely the accepted explanation of the difficulty occasioned by the appearance in algebra of the 'imaginary'. This explanation is due to the efforts of some of the more philosophical of the English mathematicians in the first half of the nineteenth century—D. F. Gregory, Boole, and De Morgan.¹ The views expressed by Dr. Whitehead,² which are those to which Mr. Berkeley chiefly refers, are, in essentials, the same as those of De Morgan.³

The symbols of arithmetic, and algebra regarded as *arithmetica universalis*, denote numbers, and the operations—symbolised by +, −, and so on—with them are subject to rules derived from the (self-evident, it may be) notions of number. But, according to De Morgan, in "symbolic algebra" we divest all the symbols, except =, of any particular meaning: 'A = B' means 'A and B have the same resulting meaning, by whatever different steps attained'. These symbols are subject only to certain rules, such as $+ A - A = 0$, $+ (+ A - B) = + (+ A) + (- B)$, $+ A - B = - B + A$, $\times A \div B = \div B \times A$. "As soon," said De Morgan,⁴ "as the idea of acquiring symbols and laws of combination, without given meaning, has become familiar, the student has the notion of what I will call a *symbolic calculus*, which, with certain symbols and certain laws of combination, is *symbolic algebra*: an art, not a science; and an apparently useless art, except as it may afterwards furnish the grammar of a science. The proficient in a symbolic calculus would naturally demand a supply of meaning," which would turn his *symbolic calculus* into a *significant* one; and we must remember that many different sets of meanings may, when attached to the symbols, make the rules necessary consequences.

De Morgan, in the book mentioned, constructed algebra upon a basis which enables us to give a meaning to every symbol and construction of symbols before it is used; the calculus of ordinary "double" (with two units, real and imaginary) algebra became significant at every step when interpreted in a well-known manner in space of two dimensions.

¹ Cf. my article in the *Quarterly Journal of Mathematics*, 1910, pp. 332-334, 345.

² *A Treatise on Universal Algebra with Applications*, Cambridge, 1898.

³ *Trigonometry and Double Algebra*, London, 1849, pp. 89-105.

⁴ *Op. cit.*, pp. 92-93.

Dr. Whitehead defined a calculus as the art of the manipulation of substitute signs according to fixed rules, and the deduction therefrom of true propositions about the things denoted by the signs. Thus, a calculus is supposed to be significant; "but when a set of marks and the rules for their arrangements and re-arrangements are analogous to those of a significant calculus, so that the study of the allowable [i.e., permitted by the rules laid down, just as the pieces at chess have allowable moves] forms of their arrangement throws light on that of the calculus, . . . then the art of arranging such marks may be called—by an extension of the term—an uninterpreted calculus. . . . The marks used in it will be called signs or symbols as are those of a true calculus, thus truly suggesting that there is some unknown interpretation which could be given to the calculus."¹

Mr. Berkeley (p. 76) reminds us of what mathematicians are too prone to forget, namely, that "if the marks are not symbolic they are not marks but things, and where the rule of manipulation is not symbolic it is at once arbitrary and meaningless—is not, in any sense relevant to symbols, a rule of manipulation". And *à propos* of Dr. Whitehead's remark that the study of an uninterpreted calculus possesses serious scientific value when there is a similarity of type of the signs and of the rules of manipulation to those of some significant calculus, Mr. Berkeley remarks (p. 77): "I do not doubt it; only there is one rather important point which is ignored in this explanation. How or why does one set of signs and of the rule for their manipulation happen to be similar to another set, unless there is analogy of conception and of thought-process seeking and finding expression in this similarity of type of sign and of rule; in other words, unless the later calculus is significant?"

We cannot see the relevance of this question. We may study, as people did in the eighteenth century, the calculus of imaginaries as an uninterpreted and perhaps uninterpretable calculus analogous to the significant calculus of real quantities. It is true that the calculus of imaginaries is significant, but we fail to see, at any rate as yet, that analogy with a significant calculus implies significance. There seems to be no obvious connexion between the two; and certainly, if A is true, we cannot say that A implies B unless we know that B is true. But if we already know that a calculus is significant, Mr. Berkeley's argument is superfluous.

Dr. Whitehead implicitly adopted Boole's² doctrine that, in any system of valid reasoning by the aid of symbols, the formal processes of demonstration are to be conducted throughout in obedience to the laws determined from the interpretation of the data, without regard to the question of the interpretability of the particular results obtained. Mr. Berkeley objects to Boole's arguments that the knowledge of this law of the mind is derived, like that of the other laws of the mind, from the manifestation of the general principle in

¹ Whitehead, *op. cit.*, p. 5.

² *Laws of Thought*, London, 1854, pp. 68, 69.

the particular instance, on the grounds that it is merely an assertion. "If," he says (pp. 78-79), "it were a matter of experience that intermediate results in a process of reasoning were always, or even usually, uninterpretable, then we should feel no difficulty—we should recognise the general principle in the particular instance. For my part I recognise in this case just the contrary : that the particular instance manifests an unexplained departure from general principle."

We cannot help feeling that Mr. Berkeley is right, and that it is only the fact that "double" algebra is wholly interpretable that made steps which are uninterpretable in another sphere lead to correct results which are interpretable in that sphere. It is not difficult to see how strongly a mathematician would feel, like Woodhouse, that, since calculation with imaginaries led to undoubtedly correct results, it *must* have a logic ; how a mathematician like Boole would be led to make this into a general principle of reasoning ; and how a clear but non-mathematical mind like that of Jevons would fail to grasp this characteristic of Boole's logical work. Hence Mr. Berkeley's objection (pp. 79-83, 109) that to conceive, with Dr. Whitehead, algebra as an independent science dealing with the relations of certain marks conditioned by the observance of certain conventional laws, is as great a difficulty as the difficulty of imaginaries it is supposed to remove, because no intelligible account can then be given of the *raison d'être* of the relations, conditions, and laws or conventions affecting the marks.

But while Mr. Berkeley seems to us to be correct in pointing out that the Universal Algebra of Dr. Whitehead is not a logically arranged body of doctrine, he does not appear to have grasped what would seem to be the essential character of this science. In Universal Algebra we are given, not a completed science, but a method for future discovery. The signs in it are signs for entities and for operations on those entities, but the entities and operations themselves are, to a great extent, left undetermined ; and thus are said to be 'variable'. Thus in 'A + B,' 'A' and 'B' may possibly denote classes, and 'A + B,' as in symbolic logic, the least class which contains all the members of A and B ; or, again, 'A,' 'B,' and '+' may denote numbers and the operation of addition, as in arithmetic. In both cases we have $A + B = B + A$.

We can, now, imagine games, so to speak, with marks such as A, B, +, and so on. Certain of these games may be given a valuable interpretation ; and some of us think it worth while to search in this way for such interpretations, because such searches—though perhaps not made so explicit—have often been successful in the past. We may notice, by the way, that this view is sharply to be distinguished from the formalist view of algebra, in which the subject-matter is considered to be a set of marks merely, which are to be dealt with according to fixed rules.

Lastly, although it seems necessary that the validity of the laws

of transformation of a set of marks depends, not on convention, but on interpretation, it is not necessary that algebra should depend on geometry. For, as Peano has shown, complex numbers may be interpreted logically, as what are known as 'substitutions'.

There is conformity with the results of the modern logical criticism of Frege and Russell of the so-called 'generalisation of number'. Mr. Berkeley's views are summarised on page 252 : "That the supposition or belief entertained by some mathematicians . . . that the development of algebraic symbolism leads to a new and more fundamental, or more extended, notion of quantity than that with which Algebra starts, is an illusion which appears as the culminating point of, and for which the way is prepared by, the tendency to mystical explanation which marks the commonly received exposition of the conceptions and symbolism of Algebra in its most elementary phase" (cf. pp. 85-86). With this end in view, Mr. Berkeley criticises Prof. Chrystal's *Introduction to Algebra*, and finds in it "a belief or supposition that the conceptual development follows upon the development of a symbolic system, rather than that the development of a symbolic system follows upon and is the expression of a development of conception. We would think it a very odd statement were any one to assert that the laws of addition and subtraction in arithmetical symbolism lead us to the notion of number" (pp. 86-87).

Those mathematicians who are not unacquainted with the history of mathematics in England during the last century, and who remember with sympathy the polemic of Maseres and Freud against the illogical methods for the introduction of negative quantity in use in text-books, will feel warm agreement with Mr. Berkeley when he reads on page 97 : "Any one who can recall his school days, in particular his initiation into the mysteries of algebra, will, I doubt not, also recall the bewilderment produced in his mind by the authoritative divulgence of quantities less than no quantity and infinitely less than no quantity : a bewilderment which gradually yielded to the lethal effect of a sufficiently oft-repeated formula, accepted as significant with the trustfulness natural to youth and ignorance at the bidding of the pastor and master".

Mr. Berkeley's view of the nature of the 'extensions of the number-concept' seems to us a notable approximation to the view which modern research into the logical principles of mathematics has shown to be, in all probability, the true one. He says (p. 98) : "'Quantity' is the name of a relation the conceiving of which is in no way modified when we combine with it that of opposition in measure between the 'things' quantitatively related; and the case is in no wise altered when, the nature of the 'things' becoming indifferent to the purpose of our thought, we make abstraction of them altogether and confine the subject of thought to this abstract combination of quantitative relation and opposition in measure.

This amounts to saying that the term 'algebraic quantity,' or its equivalent in algebraic symbolism, expresses this abstract combination, and not any modification or extension of the idea of quantity."

A modern mathematical logician recognises that a number a is a class, while the relative number symbolised by ' $+a$ ' is, like — a , a relation;¹ so that we cannot identify a with $+a$. This Peano virtually admitted by calling, in his *Formulario*, the definition $(+a = a)$ an "irregular" definition, made to bring strict logic into conformity with the excusable conventions of mathematicians.

At this place we may notice that mathematical logicians have rejected the "principle of permanence" which had become the mathematicians' orthodox explanation of the "generalisation of number" from integers to rational, irrational, and complex numbers, each class including all the classes which precede it.²

We think that Mr. Berkeley is, like Stallo, in the right against the older popular exponents of non-Euclidean geometry. But the views which Mr. Berkeley shows to be mystical are not the modern views. For instance, on page 154, Mr. Berkeley quotes from Couturat³ the opinion that the point is the indefinable element of all systems of geometry. Now, both Russell and Couturat gave expositions of the previous logical theories of geometry of Pasch, Peano, and Pieri, before announcing Russell's discovery that geometry needs no indefinables, such as were used by the writers just named. And, rather further on, Couturat⁴ said of Russell's definition of the class of projective spaces that "it implies no indefinable notion, since straight lines are defined as relations of a certain type, and points are conceived as the (problematic) terms of these relations, so that their notion does not really come into the theory. Nor does it imply any indemonstrable primitive proposition, since all the postulates of projective geometry now form a part of the definition of the class of projective spaces, and constitute the hypothetical properties of these spaces. We do not affirm any of these postulates categorically; we only affirm that, if a space has such properties enunciated in its definition, it will possess besides such other properties enunciated in the theorems. Thus projective geometry is reduced to the form of a vast implication. . . ."

Mainly owing to the development of non-Euclidean geometry, geometers have been led to abandon the view that geometry is a certain system of propositions deduced from premises which were

¹ Russell, *op. cit.*, p. 244; Couturat, *op. cit.*, pp. 80-81; cf. p. 88.

² Russell, *op. cit.*, p. 377; cf. pp. 150, 270; Couturat, *op. cit.*, pp. 89-90; Peano, *Rev. de Math.*, t. viii., 1903, pp. 84-87; Frege, *Über die Zahlen des Herrn H. Schubert*, Jena, 1899.

³ *Op. cit.*, p. 127; cf. Russell, *op. cit.*, p. 382.

⁴ *Op. cit.*, pp. 158-159; cf. pp. 180, 204-208; cf. Russell, *op. cit.*, pp. 397, 429-436.

supposed to describe the space in which we live, and to regard geometry as a subject in which the assertions are that such and such consequences follow from such and such premises, not that entities such as the premises describe actually exist. That is to say, if Euclid's axioms be called A, and P be any proportion implied by A, then older geometers would assert P, since A was asserted; but nowadays, the geometer would only assert that A implies P, leaving A and P themselves doubtful. Thus geometry no longer professes to throw any direct light on the nature of actual space.¹

In the main, we agree with Mr. Berkeley's criticism. It appears to us quite certain that many mathematicians of eminence have fallen a prey to the mysticism which he attacks usually with such vigour and correctness, and his book is a valuable contribution to the explaining of the paradoxical remark (pp. 6-7) that one hears so often, that some people have logical but 'unmathematical' minds.

But, although Mr. Berkeley's criticisms often, unlike the various orthodox expositions of the foundations of mathematics, agree with the careful work of modern authors like Frege, Peano, and Russell, on the principles of mathematics, Mr. Berkeley does not seem to be well acquainted with this work; and it is this work which most emphatically deserves the title of "modern," but seems to us, owing to its almost continual use of a powerful and subtle symbolic logic, and logic alone, quite free from mysticism.

PHILIP E. B. JOURDAIN.

The Letters of John Stuart Mill. Edited, with an Introduction, by HUGH S. R. ELLIOT; with a Note on Mill's Private Life, by MARY TAYLOR. Vol. i, pp. xlvi, 312; vol. ii., pp. 408. Six portraits.

ALTHOUGH a good deal of family correspondence still remains in MS. that would cast light upon the life and character of the most eminent philosopher of the middle of last century, possibly very little will ever be printed in addition to the materials contained in these volumes. The letters here published are chiefly from rough drafts preserved by Mill himself, many of which he had marked "For publication": others, filling the first 120 pages, are from the originals addressed to John Sterling, and from copies of those that were written to Carlyle and Lytton Bulwer. Letters that have already appeared in other collections are not included. The series extends from 1829 to the last months of Mill's life, and fully illustrates his social, literary and political activities. Besides the letters, there is a Diary (Appendix A), from the 8th of January to the 15th of April, 1854: it gives no account of his life, but is designed to record

¹ Russell, *op. cit.*, pp. 372-374.

each day at least one thought relating "to life, feeling, or high metaphysical speculation," that should be worth writing down. On the whole, these volumes show us the growth of Mill's reputation through the ever-widening circle of his correspondence with friends and strangers, at home and abroad, but do not add much to the knowledge we already have of his character and opinions. Much the most interesting portion is the first half-volume, reaching down to the time of his marriage. The early letters to Carlyle and Sterling throw some light upon the state of his mind during the period when, becoming dissatisfied with the doctrines of Bentham and his father, in which he had been too exclusively trained, he experimented (as it were) with the influence of poetry, religion, and mysticism.

The well-known crisis of Mill's life seems to have begun in 1828, and is marked in this book by the first letter (1829), which is addressed to Sterling, and mentions his sense of loneliness and incapacity to sympathise with others. In the *Autobiography* this stage is compared to the experience of Methodists in conversion; but that hardly explains it. Conversion is the socialisation of the egoistic child-character, usually coinciding with the maturation of sex-character, and taking place under religious influences; because religion has always been a sanction of social obligations. But socialisation, like everything else in Mill's life, had been anticipated by education, so far as intellectual education could do it. We know of no crisis at which he first became vividly aware of the claims of others, or of his country, or of mankind: these things had always been kept before his mind. What happened when he was about twenty was, I conceive, that, in the first place, he suffered from nervous exhaustion and, at the same time, from the need of personal affections, which his home life had failed to gratify. The want of affection had much the same effect as what we call 'home-sickness,' when we miss the opportunity of indulging many instinctive or customary activities. Just then, or very soon after, he fell in for the first time with men whose opinions and sentiments, in some directions, differed widely from what he had been accustomed to consider as the sole standard of reason, but whom he was compelled to respect or even admire. His affections, constitutionally very warm, fastened eagerly upon these men, especially upon Sterling, with whom he formed, and upon Carlyle, with whom he believed himself to have formed, a sort of heroic friendship. This led him to enter into their ways of thinking and feeling not only with toleration but with a desire to agree with them, which showed itself by an exaggeration of the degree in which he did agree with them and of the degree in which he differed from his former associates.

Thus, in the second letter to Sterling (1831), he sets forth his "ideas of a Church establishment," ideas that cannot indeed have satisfied his correspondent, but would have been still less acceptable

to James Mill. He goes on to say that he has visited Wordsworth, and that all his "differences with him, or with any other philosophic Tory, are differences of matter-of-fact or detail," while with the Radicals or Utilitarians his differences are as to principles. About seven months later, speaking of 'self-culture,' he says that he does not mean by that word "to prejudge anything whether such culture can come from man himself or must come directly from God". In the same letter his style breaks into picturesque simile; he discovers that human life is like a river, and works out the parallel with the zest that is apt to accompany a sense of origination; apologising, however, for "the habit of moralising and poetising which has grown upon me". But he was not deceived as to the direction of his powers: in October, 1831, he says, "I have put down upon paper a great many of my ideas on logic," and "the only thing I am really fit for is the investigation of abstract truth, and the more abstract the better".

Carlyle, "a great hunter out of acquaintances," he first met in 1831. His appreciation of Carlyle grew rapidly. Next year he writes: "Your parting gift, the paper on Biography and on Johnson, has been more precious to me than I well know how to state"; I have "derived from it more edification and more comfort than from all else that I have read for years past". In the earlier letters to him there is a charming humility. Mill knew his own superiority to other men; but he also knew his limitations, and had the warmest admiration for all the gifts he lacked. "You," he says, "I look upon as an artist, and perhaps the only genuine one now living in the country; the highest destiny of all lies in that direction." Later he writes: "I conceive that most of the highest truths are, to persons endowed by nature in certain ways, intuitive; that is, they need neither explanation nor proof, but if not known before are assented to as soon as stated. Now it appears to me that the poet or artist is conversant chiefly with *such* truths, and that his office in respect of truth is to declare *them* and to make them impressive." But he begins to feel that eagerness to agree with his friends is leading him into some degree of insincerity: "it seems to me that there has been on my part something like a want of courage in avoiding, or touching only perfunctorily, with you points on which I thought it likely that we should differ. That was a kind of reaction from the dogmatic disputatiousness of my former narrow and mechanical state." Accordingly, in January, 1834, he makes a clean breast of it as to the most important matters, "a merely probable God," uncertainty as to immortality, adhesion to Utilitarianism, though he is not "one of the people called utilitarians". These letters come to an end with the arrival of Carlyle as a permanent resident in London. It is greatly to be regretted that we have none of Carlyle's letters in reply. We know from Carlyle's *Reminiscences* and from the *Letters of Jane Welsh Carlyle*, that for some years there was a good deal of intercourse

between them. Visitors, Carlyle says, his wife had in plenty, "John Mill, one of the most interesting, so modest, ardent, ingenuous, ingenious, and so very fond of me at that time"; but, in some ten years, intercourse came to an end, "why, I never rightly knew".

There was of course a continual divergence of their ideas and sentiments. After "that period of *recovery* after the petrifaction of a narrow philosophy in which one feels *quite sure* of scarcely anything respecting truth, except that she is many-sided" (vol. i., p. 67), Mill in fact obtained a more complete command of his former principles. In the *Autobiography* he speaks (with some illusion of memory) of "my early opinions, in no essential part of which I at any time wavered" (p. 168). His friends had helped him to acquire a wider knowledge of human nature and society: of what kind may best be read in his *Essay on Bentham*, where he sums up the shortcomings of his former teachers. But his object in life remained, "to be a reformer of the world"; his experiential philosophy remained; his utilitarianism (with modifications uninteresting to Carlyle); above all his method. To nothing could he have been more averse than to Carlyle's worship of the *Übermensch*. In Mill's Diary we read: "Almost everything Carlyle says of Goethe appears to me to be mistake and misapprehension" (6th Feb.). Again (11th April), "the Germans and Carlyle have perverted both thought and phraseology when they made Artist the term for expressing the highest order of moral and intellectual greatness. The older idea is the truer that Art in relation to Truth is but a language. Philosophy is the proper name for the exercise of the intellect which enucleates the truth to be expressed." In temperament no two men could be more opposite. They walked together very often on Sundays "with a great deal of discourse," says Carlyle in the *Letters* of his wife, "not worthless to me in its kind". But in the *Reminiscences* he says: "Dialogues fallen all dim, except that they were never in the least genial to me". In fact Mill was felt to be "rather colourless, even aqueous—no religion in almost any form traceable in him". Gradually, and perhaps unwillingly, becoming aware of this, how could he continue the intercourse?

There may have been something further. In Carlyle's *Reminiscences* we find that Mill "had by this time introduced his Mrs. Taylor too; a very will-o'-wispish iridescence of a creature; meaning nothing bad either. She at that time considered my Jane to be a rustic spirit fit for rather tutoring and twirling about when the humour took her; but got taught better (to her lasting memory) before long." The parenthesis is as important as a postscript. Moreover, a little later, "The Mrs. Taylor business was becoming more and more (we could see) of questionable benefit to him". Still later (31st July, 1843), Mrs. Carlyle, after retailing an absurd story about Mill to her "man of genius," concludes: "He begins

to be too absurd that John Mill". Evidently there was unanimity in that household, a state of mind that could not be disguised. Mill never felt estranged from them as they did from him; and the failure of this friendship, begun so warmly, may have contributed to determine Mill's withdrawal from society during the next twenty years.

This brings us to the second point, and the only other very important one, upon which these volumes give some interesting information: Mill's marriage and the influence his wife had upon his life and opinions, from 1831, when he first made her acquaintance, until her death in 1858. Even in this matter there is very little to add to what Bain says in his *Criticism*. His wife had no effect on the *Logic*, nor on the *Examination of Hamilton* (which was written after her death), nor on the scientific part of the *Political Economy* and *Representative Government*; in fact with none of the work which, in his own opinion, "he was really fit for, the investigation of abstract truth". There remain *The Subjection of Women*, the literary treatment of the *Liberty* (for surely the doctrines of that work were traditional with Mill) and the socialising of certain economic opinions. What we learn more about in the volumes before us is his view about marriage itself.

Opposite page 158 (vol. i.) a facsimile is given of a statement, signed by Mill on his marriage, repudiating the legal consequences of the act: "the whole character of the marriage relation as constituted by law being such as both she and I entirely and conscientiously disapprove, for this among other reasons, that it confers upon one of the parties to the contract legal power and control over the person, property, and freedom of action of the other party, independent of her own wishes and will". Being unable legally to divest himself of such odious powers, he enters this formal protest, and declares that Mrs. Taylor "retains in all respects whatever the same absolute freedom of action, and freedom of disposal of herself and of all that does or may at any time belong to her, as if no such marriage had taken place," etc. The marriage contract is still unfairly onesided, and it was much worse in 1851; but still it does, and did, give important rights to the woman; and on Mill's theory of the equality of the sexes, it would be necessary that she should likewise repudiate them; and then I cannot see that anything that has ever been called marriage any longer remains. Compare the remarks upon divorce at page 187, vol. i. (1855). In the Diary under 26th March, he goes still further. Seeing no likelihood of ever writing out his views upon this subject at length, he desires, he says, to leave it on record that "Any great improvement of mankind is not to be looked for so long as the animal instinct of sex occupies the absurdly disproportionate place it does therein; and to correct this evil two things are required: firstly, that women should cease to be set apart for this function, and should be admitted to all other duties and occupations on a par with men; secondly, that

what any persons may freely do with respect to sexual relations should be deemed to be an unimportant and purely private matter, which concerns no one but themselves. If children are the result, then indeed commences a set of important duties towards the children, which society should enforce upon the parents much more strictly than it now does. But to have held any human being responsible to other people for the fact itself, apart from this consequence, will one day be thought one of the superstitions and barbarisms of the infancy of the human race."

That these opinions were matured in conversations with his wife and under the influence of their peculiar circumstances can hardly be doubted ; but they did not originate with her. For in the *Autobiography* (p. 167) he says that what he most honoured in the St. Simonians, with whose speculations he was already familiar in 1831, was "what they have been most cried down for—the boldness and freedom from prejudice with which they treated the subject of family". It is greatly to be regretted that Mill did not publish at length his opinions upon this subject, instead of merely leaving his conclusions for publication (for the Diary was meant to be published) without reasons to justify them. His *Subjection of Women* is fairly argued, and any one who does not agree with it may, if he likes, reply in detail. But for his views of marriage no reasons are given : they derive their interest solely from his reputation. Any one who does not agree with them may feel tempted, therefore, to disparage his reputation, may even think it a duty to do so. To me such a course would seem needless ; because the prevalence of such views does not depend upon any one man, however eminent. They are common enough ; though rarely published in this country, or acknowledged, except in the confidential intercourse of coteries : a natural rank growth of 'the human mind left to itself,' they are usually entertained in a spirit very different from Mill's.

Still one cannot help regretting that it should be possible to claim Mill's authority for a bald conclusion without any of the grounds and explanations by which he would certainly have raised it into an ideal region and given it a place in some systematic view of human life. How he would have done it effectually I cannot surmise. In his *Essay on Coleridge* he says : "The second condition of permanent political society has been found to be the existence, in some form or other, of the feeling of allegiance or loyalty"—"that there is in the constitution of the State *something* which is settled, something permanent and not to be called in question". Is there not also a condition of the permanence of society itself, something settled and not to be called in question ; and does anything better deserve this place than legalised marriage ? Not that to call it in question should be forbidden or penal, but that there should be such "a feeling of allegiance" as to make all such questionings vain. As men and women exist at present, and as they are likely for some ages to remain, the sexual relations contemplated by Mill

would make the enforcement of "important duties toward the children" impossible: paternity could not be traced; there would be a return to matriarchal conditions. This objection he might have set aside by alleging the essential equality of mankind and the power of education. In the Diary (13th Ap.) we read: "A slight change in education would make the world totally different". Well, we have now witnessed a slight change in education.

Some of Mill's expressions of admiration for his wife that occur in the Diary (she was then a confirmed invalid) surpass everything of the kind that has yet been published; they recall the raptures of saints. "If human life," he says (14th Feb.), "is governed by superior beings, how greatly must the power of the evil intelligences surpass that of the good when a soul and an intellect like hers, such as the good principle perhaps never succeeded in creating before—who seems intended for an inhabitant of some remote heaven, and who wants nothing but a position of power to make a heaven even of this stupid and wretched earth—when such a being *must perish*," etc. There is a sort of profanity in quoting such words, and I would not do it in a popular journal; but we must realise how overwhelming were his sentiments. Having one day asked Bain what we ought to think of this matter, he answered pathetically: "Ah, well: Mill was in love". Love, like hypnosis, produces a paralysis of attention, prevents attention to other things, and therefore comparison, and therefore judgment. Most of us suffer some such incapacity through absorption in our own pursuits or our own theories. Mill's was a nobler weakness. So far as he was aware of his passion, it was entirely a spiritual enthusiasm: Mr. Elliot in his Introduction says that Mill was deficient in the instinctive life. Yet such deficiency can hardly have been inborn. Mill was one of a large family, and originally of an unusually strong constitution. The defect, therefore, was due to education. I suppose Freud would say that the normal disposition had become a 'suppressed complex': for the most part 'sublimated,' that is, its energies turned into other channels; but not extinguished; displaying its secret power in imaginative attractions and aversions, and in somewhat fantastic schemes of social life. However, an imaginative passion may have tragic consequences: Miss Mary Taylor's Notes on the disturbance or rupture of relations with Mr. Taylor on the one hand and, on the other, with Mill's own family, are very painful.

CARVETH READ.

The Idea of the Soul. By A. E. CRAWLEY, M.A. London:
A. & C. Black, 1909. Pp. viii, 307.

MR. CRAWLEY, who is well known among anthropologists as the author of *The Mystic Rose* and *The Tree of Life*, essays in this book to refute Prof. Tylor's widely accepted account of the origin

of animism, and to establish a novel hypothesis in its place : "The sole object of the present inquiry is to apply what psychology gives us to the problem of the origin of the idea of the soul". Prof. Tylor, it seems, was so unfortunate as to complete his account of the origin of animism "before psychology could assist the explanation". "In his explanation of the latter [the origin of animism] there is no psychological precision—the fact being that his explanation was completed before the development of experimental psychology." "The statement which to-day passes for a solution [*i.e.* Tylor's account] is little more advanced than that of Hobbes, two hundred and fifty years ago, or even than those of Aristotle and the still earlier Greek thinkers whom Lucretius followed. For all practical purposes we are no nearer a solution than were the thinkers of more than two thousand years ago. Yet this problem is the simplest, as it is the first, of all the problems presented by mental evolution in man. When once Anthropology employs the verified experimental results of psychology the solution is obvious. The origin, not only of the idea of the soul, but of the idea of a spiritual or supernatural world, is then automatically explained." And the lack of experimental psychology was not the only grave disadvantage under which Prof. Tylor laboured in restating the theory of two thousand years ago. At the time he wrote his celebrated work Mr. Crawley had not yet given precision to the methods of anthropological research, which hitherto have been "merely those of unaided common sense".

The opening pages, the tenor of which is sufficiently indicated by the foregoing extracts, are calculated to excite in a high degree the anticipations of the reader. If it should appear that Mr. Crawley has succeeded in substantiating these large claims, this book would have to be accorded the high place of one that marks an epoch.

The refutation of Prof. Tylor's theory is extremely simple. That theory attributed the origin of the idea of the soul in the main to reflexion upon the facts of dreaming, hallucination, sleep, trance, and death, especially the first. Mr. Crawley (and this seems to be his principal contribution to the reform of anthropological method) lays down the canon that "in order to explain a universal phenomenon, such as the belief in the soul, normal and universal, not abnormal and occasional, causes must be assigned". But dreams, hallucinations, sleep, trance, and death are "abnormal and occasional" events. Therefore they cannot be assigned as causes of the "universal phenomenon," the origination of the idea of the soul. To a less exacting writer this syllogism might have seemed sufficient in itself to refute the generally accepted view. But Mr. Crawley supports it with a number of equally remarkable statements and reasonings, the value of which may be illustrated by the following extracts : "It is psychologically impossible for the idea of the soul, as we actually find it, to be originated by the inferences

from dreams. In the first place, there is frequently at some point during the dream a semi-conscious realisation of self, that is to say, of the self as viewing things and persons in the dream. In the next place, dream-figures are no less intense, generally more intense, and therefore more real, sometimes even larger, than what is seen when awake. It is quite erroneous to speak of dream-figures as 'phantoms'. . . . Can such an intensely real sight produce the idea of 'souls being ethereal images of bodies,' or the idea of a still more ethereal 'phantom'?" "A personal concrete entity like the soul can only be developed from sensations, chiefly visual." We pass on from the first chapter, which is devoted to the refutation of the hitherto celebrated dream-theory, prepared for the revelation of the true theory by the assurances that "Psychology supplies an infallible test; it proves what can exist, and what can not exist in the brain, and at what stage of evolution a phenomenon can appear"; and that "we shall find that the idea of the soul is an automatic result of elementary mental processes". The revelation is made in the third chapter. "Spiritual existence is mental existence; the world of spirits is the mental world. Everything that can through perception lay the foundation of a memory-image can claim the possession of a soul, an existence in the spiritual world here and hereafter. And this world is, in the incomplete and long-suffering term, the supernatural." For the idea of the soul of any man or thing is nothing more or less than the visual memory-image of that man or thing. Primitive man visualised the objects that he had seen. But "Many men pass through life without realising the existence of the memory-images which form all their thought," and this was the case of primitive man, until suddenly this "naïve person, who has never yet seen or realised a memory-image," becomes aware of his memory-images, and in so doing discovers "a new world of mental objects. For this is what his discovery amounts to—a new world. This discovery, doubtless one of the earliest, was more pregnant with possibility than any discovery since made by man, inasmuch as it was his first acquaintance with the soul and with the world of spirits, in other words, with mental existences. . . . In the one case, then, perception, our subject has the person or object, the thing; in the other, memory or thought, he has the soul of the thing. The idea of the soul is thus an automatic result of the reaction to perception; it is a mental repetition of sensation." "When primitive man first saw an object in memory he saw the soul for the first time; he was then conscious of something besides the thing—the mental replica, the thought of the thing."

The third chapter, in which this novel suggestion is made, is followed by a long chapter on 'Prescientific Psychologies,' which is a compilation of the beliefs about the soul entertained by savage and barbarous peoples in all parts of the world. I have read this chapter with care, but have found among all the man, beliefs

described only one instance that might be held to lend colour to Mr. Crawley's suggestion, as against the accepted theory (the *Nunuaï*, p. 100). All the rest are of the familiar types on which Prof. Tylor's theory is founded. The remaining two chapters are occupied with reasonings in support of the new view, of which it must be said that their psychology is as fantastic and their logic as slipshod as those employed in the "refutation" of Prof. Tylor's theory. They may be illustrated by an outline of the argument which Mr. Crawley seems to regard (rightly I think) as of the most weight. This argument (chap. v., § 4) runs thus : the human soul is sometimes represented by a doll about three inches in length; the memory-image of a man is usually about three inches in length; therefore the memory-image of a man is identical with his soul; further, "in Nias the heaviest soul weighs about ten grammes. Modern spiritualists estimate the average weight of the soul at three or four ounces," i.e. about the weight of a man three inches high; and again, the voice of the soul is thin and feeble, about as loud as the voice of a man three inches high. "Conscience is generally a still, small voice. To put it shortly, just as we have the size of the soul standardised to a miniature photograph, so its voice is that of its master's voice when heard through the telephone." Mr. Crawley, of course, does not state the argument in so bald a fashion as I have done. He mixes it up with extracts from text-books of physiology and psychology, the scientific flavour of which might disguise for some readers, as it seems to have disguised for the author, the absurdity of the whole mixture. And, not content with the statements found in the text-books, Mr. Crawley has plunged himself into the difficult waters of experimental psychology and has brought up from the depths the following confirmation of his views :—

"We have ourselves arrived by experiment at the result, that dream-images remembered on waking are very small, a human figure being about the size of a miniature photograph; that memory-images, where the attention is not concentrated, are very small, but do not lose detail and colour, and that the memory-image of a man at a distance of thirty yards is about the size of an object three inches high at a distance of eighteen inches, that is to say, the usual distance at which one holds an object for examination. Roughly speaking, this is the size of a *carte-de-visite* of the smaller sort, small enough to be grasped in the hand, as the medicine-man grasps the soul." These chapters contain many other gems worthy of being cited, but two must suffice. "Similarly the Chinese place the soul-tablet on the dead man in the hope of reviving him. This is the method of superimposition, a translation into action of what occurs when the memory-image is merged in or placed upon the percept. The idea of the soul as an eject, which is replaced through the apertures of the body, comes from analysis of the percept; in this form it is not fused with the memory-image;

the latter, in fact, is temporarily ignored." Again : "It is a common belief that the soul is restless, and wanders aimlessly about until the body is buried. This is the behaviour of the memory-image until it is safely embodied in the percept, or some symbol which takes its place."

Enough has been said to illustrate the quality of Mr. Crawley's psychologising. As to his anthropological method, in which we were led to anticipate some striking reform, it must suffice to say that he repeatedly falls into the besetting vice of anthropologists of the loose-thinking kind, *i.e.*, from the whole immense mass of recorded statements about savages he selects one or two that are in accordance with his view, or in disagreement with a rival view, and seeks in this way to establish, or to overthrow, sweeping generalisations about the *savage* or the *primitive man*. Thus in treating of 'animatism' (the word used by Mr. Marett to denote a supposed stage of primitive thought antecedent to developed animism in which a vaguely conceived power (*Mana*, *Orenda*) is ascribed to many inanimate objects as well as to animals and men), Mr. Crawley, who tells us that "certainly animatism is a disease of the language of modern anthropology," quotes Mr. Dudley Kidd's statement that Kaffirs, on being questioned as to the animation of stones, said "it would never enter a Kaffir's head to think stones felt in that sort of way". If this single instance demolishes the doctrine of animatism, as Mr. Crawley seems to suppose, I may re-establish it by citing the equally relevant case of my old gardener who believed that stones multiply as potatoes do.

But that inadequate reasonings are advanced in support of an hypothesis does not prove it to be untenable; and though Mr. Crawley's chapters do not, in my opinion, establish the least semblance of plausibility for his 'memory-image doctrine,' it may be worth while to consider it seriously for a moment. To say, as Mr. Crawley does, that the idea of the soul is a visual memory-image or "a mental repetition of sensation" is, of course, as absurd as his statement that "the soul . . . is about three inches high"; but it is *prima facie* possible that the idea of the soul was reached by reflexion upon the experience of visual imagery in the waking state. The essential question at issue is, then: Was the idea of the soul reached by way of reflexion upon visual memory-images of the waking state, or did reflexion upon any or all of such experiences as dreams, hallucinations and the observation of trance, sleep and death, play the predominant part? It is of course impossible to say with absolute certainty; but surely it is more probable that primitive men were stimulated to reflexion, to feel the need of an explanation, of a theory, by experiences of the latter class, than that such stimulation was supplied by the introspective observation of memory-images of the waking state. That many savages remember and relate their dreams and attach importance to them is abundantly established; but that savages are prone

introspectively to observe, describe, or reflect upon their normal waking memory-images has never, to my knowledge, been shown; and, curiously enough, Mr. Crawley adduces throughout his book no single instance of such observation or reflexion. Yet, if such were the case, the fact would surely have been reported; and the proof of it must be the indispensable first step towards rendering Mr. Crawley's doctrine in any degree plausible. I conclude, then, that we have no reason to hesitate to continue to accept as in the main correct or at least highly probable that theory of the origin of animism which is generally associated with the honoured name of Prof. Tylor, and which Mr. Crawley would cast so unceremoniously upon the rubbish heap of prescientific doctrines.

W. McDougall.

Lectures on the Experimental Psychology of the Thought-processes.
By E. B. TITCHENER. New York: The Macmillan Company,
1909. Pp. ix, 318. 5s. net.

THOSE who complained of the sensationalistic bias of *The Psychology of Feeling and Attention* find their answer in this volume, which sets out frankly to show that a sensationalism is fit to cope with the psychology of the thought-processes. Titchener now openly confesses to theoretical bias, which he curiously enough calls constitutional. He tells us how his mind is of the mixed ideational type, in which kinaesthesia is the fundamental and predominant element. All his thinking is ideated in imagery of some kind, although he detects in it no general relation between abstractness of thought and vagueness of imagery. "Attentional clearness seems to be the one thing needful to qualify a process for meaning" (p. 17). Even meaning itself is ideated by Titchener, in a way that reminds one of the philological methods of obtaining the meaning of a root; for him meaning means a "digging out" as represented by a little mental picture, just as for one of his students it means a "straightening out". The constitutional bias which these habits represent runs towards sensationalism. The weight of other minds may drag them towards the opposite. So the extreme verbal type might champion a pure ideationism or imageless thinking. We may ignore the irrelevancy of this suggestive introduction to a criticism of experimental work, but we cannot suppress our doubts regarding the validity of any law of bias. The psychology of thought may be in a very poor way still, but the psychology of bias is surely still worse. Everyday proverbs say that the speech or theory of a mind conscious of bias runs as often counter to as with its inclination. Let it suffice that Titchener's bias has been frankly confessed.

The sensationalism of the experimental psychologist which alone can be defended must be distinguished from the older form of the

doctrine in three respects. The modern theorist deals with existences, and not with meanings. Any meanings that may be encountered must be treated *sub specie existentiae*, a method which Ebbinghaus applied to the study of memory with eminent success.¹ The second difference between the old and the new theories is that the latter considers elements as "processes whose temporal course is of their very nature, and not substances, solid and resistant to the lapse of time". That may be said to be a change necessitated by the greater knowledge of the detail and complication of mind that has been acquired. It is obviously unimportant to a psychologist who tries to be as precise in the definition of sensation and feeling as Titchener does. Otherwise, we may look for a third volume to tell us what is meant by process. The third difference actually states that the new way "is simply an heuristic principle, accepted and applied for what it is worth in the search for the mental elements; whereas the older sensationalism, just because it was a preconceived theory, required that the facts conform to it, whether they would or whether they would not" (p. 34). These are bold words for one who confesses to a constitutional bias and sets out to justify it. For the present it may suffice to suggest that a heuristic principle is surely of use only in a region where definite and successful search can be made independently (in principle) of certain problems which we cannot solve and which may be laid aside. Such a region is that of the connexion between body and mind. If Titchener is willing to look for sensations wherever there are meanings or other mysteries, and to lay aside the problem of the ultimate connexion between these two groups, he may have his principle, but not otherwise. Besides, what is the use of a heuristic principle to one who has a constitutional bias in the same direction?

In the second of these five lectures, Titchener discusses the reference to object as the criterion of mind on the basis of views of Brentano, Witasek, Stout, Bühler and others. His aim in doing so is obviously to clear the air for sensationalism. The act-and-content psychology Titchener believes to be a psychology of reflexion, not of observation, although "there are in a certain sense a hearing, a feeling, a thinking, which are distinguishable from the tone and the pleasure and the thought. Only the distinction comes to me, not as that of act and content, but as that of temporal course and qualitative specificity of a single process" (p. 60). With regard to the object of the idea, Titchener points out that the extra-mental reference to an object is by some authorities found wanting at times. Brentano and Witasek, further, claim that there is no such thing as objective reference in the physical

¹ But to do so would be to ignore the very thing that the psychology of thought is first concerned with — its qualitative elements. The mechanics of thought lies in another line of interest, and can be treated *sub specie existentiae ad libitum*.

world. This peculiar pointing relation is not found in nature. Probably as many will disagree as will concur with Titchener's view that the very notion of an evolution implies this relation of forward pointing, especially when they read that he has no liking for vitalism, and even a definite dislike for teleology (p. 71). "Every constituent part of an organism," he says, "points to and implies all the other parts. In the same way, the ideational process which is the vehicle of a conceptual meaning is involved in a network of reproductive tendencies; it points to and implies all the special ideas that fall under the concept in question" (p. 72). But if objective reference is universal and has not a peculiar psychological form, why offer a theory of it in psychology? Bühler's objection to transcendence, as I take it, rests in part upon the insight that the sort of reference that reproductive tendencies can give is no proper substitute for that indisputable conscious reference sometimes called transcendence. I do not understand that he means to deny the frequent occurrence of conscious reference as such, any more than Titchener himself does in the end. It is surprising that Bühler's views do not appeal more to Titchener than they do, for he himself as a sensationalist has no use for transcendence. Titchener seems unduly to discount and ignore the arguments Bühler brings against the position Titchener himself finally takes. But, then, Titchener is so extreme and consistent as to conclude that "not mind but man, embodied soul and ensouled body, is the subject of which we may predicate a transitive reference" (p. 75). It is one thing to insist that mental states should be defined psychologically on the basis of differences of attributes and not psychophysically, and another, surely, to consign transitive reference to the psychophysical region. But not even then has Titchener got rid of the transitive reference.

It may be well to notice that the state of recognition presents as great a problem to the sensationalist as do any other states incompatible with his theory. We do not now suppose that that state implies the recurrence of one and the same sensation, just as we may agree that the mind does not transcend itself and reach out to the object. But it is hard for a sensationalist to see that no present theory of reproductive tendencies gives a full and adequate account of recognition, not even if it could show that associations do accompany it in every single case without exception. Yet no one tries to talk away the peculiar uniqueness of the state of recognition or to find recognition characteristic of the whole universe, though some approach to this extreme. The only reason for this I can see is that recognition has not attained the theoretical importance that is given to thought and its elements.

From the full and very thorough report of the experimental work on thought, only a few points need be noted. Of Messer's paper it is said that "as a mine of introspective information, it is perhaps the most valuable of those issued from the Würzburg

laboratory". "Bühler," on the other hand, "gave a turn to the inquiry which in my judgment has served to retard the progress of our knowledge." Titchener agrees with Dürr and v. Aster that any introspection regarding thought that Bühler obtained was not description but intimation (*kundgabe*), a sort of modified expression or tail-wagging, and therefore useless for theory. But the experimental investigation of thought, Titchener concludes, has set up a specific problem, has put forward a principle of explanation—the determining tendency—which must henceforth be reckoned with, and has ploughed up the whole field so extensively, that only detail-investigations can now be attempted by single workers. In that and in its general suggestiveness lies its value.

For the future Titchener would have us bear in mind what we hear repeatedly but never find wholly observed, that we must have psychology and not logic. Then, again, analytic must be supplemented by genetic considerations, both racial and individual. The third and last regulative maxim we have already encountered: we must remember that consciousness may be guided and controlled by extraconscious physiological factors, cortical sets and dispositions.

What remains of meaning after all this? Titchener believes that two ideas do, under certain circumstances, make a meaning. But what are these circumstances? "An idea means another idea, is psychologically the meaning of that other idea, if it is that idea's context" (p. 175). Of all possible forms of context, two are specially important—kinesthesia and verbal images. Of these the former is the original, the latter is derived from it by what may be roughly called association. But meaning may have all sorts of imaginal forms. It may even be carried in purely physiological terms. Titchener tells us that some years ago, in the course of testing the recognition of shades of grey, he "was not at all astonished to observe that the recognition of grey might consist in a quiver of the stomach" (p. 179). He could not further describe the experience. "It was simply recognition without consciousness." There was therefore obviously more consciousness in the cases where the grey was not recognised. These statements are, he adds, made tentatively and subject to correction. They require confirmation from others. I do not know if Titchener means this to be an instance of the way in which a sensationalistic theory would deal with recognition. I confess I do not find his observation intelligible. Either he means that recognition in this case was accompanied by no other sensation than that of the quiver, in which case I fail to see why he connects the two, unless it be by the happy use of the heuristic principle, or else we have here a case of imageless recognition, which he finds it rather hard to accept. Finally, "I do not for a moment profess to have made an exhaustive exploration of my own mind, in the search for *Bewusstseinslagen*. But if there were any fre-

quent form of experience different in kind from the kinæsthetic backgrounds that I have just described, I think I am sufficiently versed in introspection and sufficiently objective in purpose to have come upon its track. . . . I have not been able to discover the imageless process" (p. 182).

Finally, what about feelings of relation? These do most assuredly exist, but their designation is equivocal. The question for psychology is: What do we experience when we have a 'feeling of relation'? For Titchener they are, of course, sensational and kinaesthetic. In others the process may be more automatic and mechanical than in him, and may therefore seem to them unanalysable and ultimate. But it is kinaesthesia all the same.

I am unable to conceive how intelligible these results are to Titchener, and how far they are induced by his heuristic principle. But even if every person had imagery when he had conscious relations and actual or excited reproductive tendencies when he had recognition, I should fail to find any identification of these terms convincing. Analytically their equation may read well enough at first sight, but synthetically it will not read at any time, be the images brilliant or mechanised, actual or potential. That seems to me as impossible as it is to juggle a particular sensation into a universal meaning by making it stand for many particulars. I think we should have a clearer view of the problems of psychology than the old sensationalists had, for we have them presented to us in many more trenchant cases than they had. Whatever theories of thought the future may bring, Titchener's sensationalism seems to be most impossible. The old theorists faced their problems and choked over them. I think Titchener shelves his by a process of learned self-deception, of which the chief elements may be repeated: (1) The irrelevant preliminary regarding constitutional bias, backed by the heuristic principle; (2) the blinding of the attention to facts of thought by the *species existentiae*; (3) the solvent action exerted by the notion of process upon the precisely definable elements of the *Psychology of Feeling and Attention*; and (4) a somewhat too exclusive reliance upon the method of analysis as carried out by himself. It strikes me as rather curious that Titchener of all people should set up a general psychological characterisation of himself against the detailed work of several observers and the floods of introspective descriptions they gave us. We shall look with interest to an account of the experiments in which he made some of his observations, for I can hardly understand how even the simpler forms of association-reactions can be carried out so as to find imagery for all the meanings realised in them. But even if they can, things will remain precisely as they are.

HENRY J. WATT.

Philosophische Studien: Beiträge zur Kritik des modernen Psychologismus. Von DIMITRI MICHALTSCHEW. Mit einem Vorwort von Prof. Dr. JOHANNES REHMKE. Leipzig: W. Engelmann, 1909. Pp. xv, 573.

THIS book discusses, more or less fully, an immense number of different questions; and I cannot do more than indicate one or two of the points upon which the author seems most anxious to insist. He has arranged his matter, for the most part, in the form of an attack upon what he takes to be the most fundamental peculiarities of the position called 'Teleological Criticism' (particularly in the form in which Rickert advocates it): he criticises those main peculiarities one by one, and tries to indicate the most important respects in which they are connected with one another. But he also inserts near the beginning a long Excursus, in which he criticises the main positions of the 'Empirio-criticists'—chiefly Avenarius and Mach; later on he gives us a long chapter in which he tries to explain his own answer to the question in what knowledge (*das Erkennen*) consists; and he ends with a series of Appendices in which he expounds his own views on various points connected with what he has previously said.

One of his main objects, as his sub-title indicates, is to attack what he calls 'Psychologismus'. The 'Teleological Critics,' the 'Empirio-criticists,' and also (in spite of the fact that their views are so widely different from those of these two schools) Husserl and Meinong are, in his view, all guilty of the fundamental error of 'Psychologismus'. And this fundamental error (which has also, in his view, been shared by an immense number of other philosophers) consists, so far as I can make out, in the assumption that what is 'given' cannot possibly 'subsist' (*bestehen*) independently of consciousness, and also, conversely, that anything which does 'subsist' independently of consciousness cannot possibly be 'given'. Different philosophers, by combining this fundamental assumption with different views on other points, have, Herr Michaltschew thinks, been led into a variety of different errors, some of the chief of which he tries to expose. Whereas, in his view, the truth is: (1) That what is 'given' may quite well, and very often does, 'subsist' independently of consciousness; and (2) that absolutely everything which does 'subsist' independently of consciousness must certainly be 'given'. The recognition of these two truths is, he seems to think, of great importance for philosophy.

But what exactly does he mean by the phrase 'subsisting independently of consciousness' and by the word 'given'? Obviously a great deal depends on these two questions. And, as regards the first of them, I am inclined to think that he does not always mean by it exactly what he might seem to mean. So far as I can make out, he himself does not hold that anything whatever can subsist independently of *all* consciousness. What he is plainly anxious to

insist on is only that what is 'given' to a particular consciousness (to me, for instance) may subsist independently of *the particular consciousness* to which it is 'given'; and, especially, that what is 'given' to us men, very often does subsist independently of *us*. But he seems to think that we must infer the existence of a non-human consciousness to which everything that subsists independently of us is always 'given' at all times when it is not 'given' to us (p. 555). Apparently, therefore, what he takes to be an error, and to be the fundamental error of 'Psychologismus,' is not the view that everything 'given' is dependent on some consciousness, but only the view that what is 'given' to a particular consciousness is always dependent on *that particular consciousness*. And it is, I think, very important to remember this when we come to consider what he means by the word 'given'.

As regards this word, I confess I cannot be sure exactly what he does mean by it. Considering how constantly he uses it, and what extreme importance he attaches to the conception (whatever it may be) which he intends to express by it, it is, I think, remarkable how little effort he makes to explain exactly what this conception is. But it seems to me that, whatever he may mean by the word, one or other of his main contentions must be mistaken. For, as we have seen, it is one main contention of his that a very great many philosophers have held or implied that what is 'given' to a particular consciousness can never subsist independently of that particular consciousness. And if this contention is to be true, we must surely understand the word 'given' in the comparatively narrow sense, which is, I think, its most natural one, namely = '*immediately given*' or '*directly known*'. But then, if we understand the word in this sense, his other main contention that everything which subsists independently of us is always 'given' to us, is surely hopelessly untrue. Can it possibly be maintained that everything which we know or know about at all is *directly known* to us? This is one horn of the dilemma to which Herr Michalschew seems to me to be exposed; and I am inclined to think that this is the horn, which he does in fact adopt: *i.e.*, that he really does hold the extremely paradoxical view that everything which we know or know about at all is *directly known* to us. If so, it can only be said that he brings forward no arguments which have the least tendency to support this view. But there is one passage, which seems to suggest that it may, after all, be the other horn of the dilemma which he would adopt; for he says on page 536 that he means by 'given' *no more than* "Gegenstand meiner Betrachtung, meiner sinnvollen Beschäftigung". If he does mean this, then his contention that everything which I know or know about must be 'given' to me, may, I suppose, be admitted; indeed, it seems to be little more than a tautology. But then his other contention, that many philosophers have held or implied the contrary, seems now to become hopelessly untrue. For surely it

has scarcely ever been held or implied that absolutely nothing that I can "treat of significantly" can subsist independently of me? It has, no doubt, often been held that absolutely nothing can subsist independently of *consciousness*. But then, as we have seen, Herr Michaltschew himself seems to hold that this view is not an error. And whether he holds this or not, he certainly does imply that many philosophers have been guilty of holding the view that nothing which is 'given' to *me* can subsist independently of *me*.

Another main object of Herr Michaltschew's attack seems to be the distinction, which many philosophers have made, between 'validity' (*Gültigkeit*) and 'reality' (*Wirklichkeit, Sein, Realität, Existenz*). He himself holds the paradoxical view that nothing except a 'sentence' (*Satz*, by which he means a mere form of words, as distinguished from what is expressed by them) can properly be said to be 'true' or 'false'; but this is a comparatively unimportant point. What is important is his view upon the question what constitutes the difference between a 'true' sentence and a 'false' one. As to this, he is extremely anxious to insist that a sentence is 'true' if and only if it expresses something 'real' (*Wirkliches*); and he supposes that this is denied by those who make the common distinction between 'validity' and 'reality'. And so indeed it is, *verbally*; for the philosophers in question certainly do imply that a sentence may be 'true' provided only that it expresses something 'valid,' and that there is a sense in which what is 'valid' is not 'real' (*wirklich*) and does not 'exist'. But whether the dispute is anything more than a verbal one depends, of course, upon the question precisely what is meant by the word 'real'; and here again Herr Michaltschew does not seem to me to make plain exactly what he does mean by it: he seems scarcely to be aware that the word may possibly be ambiguous. Thus he frequently insists that to say "It is *true* that so and so is the case" is equivalent to saying, "So and so is really (*in Wirklichkeit*) the case"; and if, when he says that a true sentence must always express something 'real,' he means no more than that what it expresses must 'really' be the case, he is no doubt right. But then, if this is all that he means, it is not denied by those who make the distinction between 'validity' and 'reality': if this be what he means, then he means by 'reality' exactly the same thing which they mean by 'validity'. But I am inclined to think that this is not all that he means: I am inclined to think he supposes that when we say "So and so is *really* the case," we are using the word 'real' in exactly the same sense as when we say (for instance) that Julius Caesar was a *real* person; *i.e.*, he supposes that every 'true' sentence must express something which 'exists,' in the sense in which particular things and persons exist at some times and not at others. If this is what he means, then undoubtedly the difference between him and those philosophers who make the distinction between 'validity' and 'reality' is more than a merely verbal differ-

ence : those philosophers do hold that what is ' valid ' is not ' real ' in the sense in which things or persons are ' real '. But, then, if this is what he means, it may be doubted whether he is right, and he certainly brings forward no arguments which have the slightest tendency to support his view.

I do not think that his treatment of most of the other points with which he deals is more successful than his treatment of these two.

G. E. MOORE.

The Moral Economy. By RALPH BARTON PERRY, Assistant Professor of Philosophy in Harvard University. New York: Charles Scribner's Sons, 1909. Pp. xvi, 267.

THIS little book, whose author is already favourably known by his *Approach to Philosophy*, is a real contribution to ethical discussion, written in a style which is not merely clear and graceful, but which has the quality of distinction. It is, he tells us, "the preliminary sketch of a system of ethics," and it cannot but awaken considerable expectations regarding the promised work. "Its form differs from that of most contemporary books on the subject because of the omission of the traditional controversies. I have attempted to study morality directly, to derive its conceptions and laws from an analysis of life. I have made this attempt because, in the first place, I believe that theoretical ethics is seriously embarrassed by its present emphasis on the history and criticism of doctrines; by its failure to resort to experience, where without more ado it may solve its problems on their merits. But, in the second place, I hope that by appealing to experience and neglecting scholastic technicalities, I may connect ethical theory with every-day reflexion on practical matters" (Preface). It is an interesting experiment, and the result, so far as it goes, is certainly very gratifying. The book ought to be read with interest and profit by many who would be repelled by a more technical and conventional presentation of the subject, and, speaking for myself, I should say that it will prove hardly less interesting and instructive to the student of ethics. It is a book which could only have been written by one who had thought and felt deeply about the problem of conduct, and who was at the same time widely read in literature, both ancient and modern. And in spite of his desire to avoid the reference to the history of ethical controversy, the author knows how to lay his finger upon what he wants in the classical discussions, and is thus enabled again and again not only to enrich his own statement, but also in many instances to illuminate the ancient text itself and give it a fresh meaning for the problems of the present. This is especially true of the chapter on "the moral criticism of Fine Art," one of the best in the book, which, we are told, is modelled upon the method of Plato and which concludes with "his familiar

summary of all the wisdom and eloquence that there is in the matter". At the same time the author has succeeded in entirely subordinating the history of ethical theory to the independent and first-hand discussion of the old problems as they reformulate themselves in our present experience.

The main divisions of the discussion are "the structure of morality," "the logic of its appeal," and "its more important applications"—to "the order of virtue," to the philosophy of history or the interpretation of moral progress, to Fine Art, and to Religion.

Starting with the acceptance of "the nucleus of morality" as "verified truth, the precipitate of mankind's prolonged experiment in living" (p. 7), and identifying its effort with "the enterprise of civilisation," or "the organisation of life," the author asserts the universality of its significance. "The moralist in the nature of the case can never be impertinent . . . because, contrary to the formula of the day, there is no such thing as virtue for virtue's sake. Morality is the one interest that virtually represents all interests" (p. 8). "To understand what morality really is, to recognise its claims, is to understand also its application, its critical pertinence to art and religion, to all the great and permanent undertakings of men" (p. 9). It is the unifying or organising principle through which "a plurality of interests becomes an *economy*, or *community of interests*" (p. 13). "The fulfilment of a simple isolated interest is good, but only the *fulfilment of an organisation of interests* is morally good" (p. 15). The various stages of virtue are simply the successive steps in the growing complexity and comprehensiveness of this organisation of life or its interests. The transition, for example, from Prudence to what the author calls Preference or Moral Purpose is simply a case of this progressive organisation of interests. "In prudence . . . there is strictly no preference, no subordination of motives. Action is controlled by an exclusive and insistent desire, which limits it-self only with a view to effectiveness. It would appear, then, that if I am to justify those types of action which are regarded as more completely moral, *I must persuade you to adopt interests that at any given instant do not move you. I must persuade you to forego your present inclination for the sake of another; to judge between interests, and prefer that which on grounds that you cannot reasonably deny is the more valid*" (p. 50). The "higher" interest is, therefore, "simply the greater interest, and greater in the sense that it exceeds a narrower interest through embracing it and adding to it . . . The higher interest owes its title to its liberality or comprehensiveness" (pp. 52, 53). The higher interest is entitled to replace the original or lower interests only because it represents and incorporates them in a larger whole of interests. "It follows that no interest can be condemned except upon grounds that recognise its claims, and aim so far as possible to provide for it among the rest. No interest can ration-

ally be rejected as having no value, but only as involving too great a cost" (p. 64). The transition from egoism to altruism is explained in the same way. "If your action fulfils your interest and thwarts mine, it is again mixed, both good and bad. In order to define the good act in the premises it is necessary, as in the previous case, to define a purpose which shall embrace both interests and regulate action with a view to their joint fulfilment" (p. 59). The ultimately controlling interest, therefore, is the total interest of humanity itself, and the formula of duty must be "so to act in fulfilment of the interest in hand, as either to promote or make room for all other interests". "Right conduct, since it is inconsistent with the least ruthlessness, must inevitably in the end assume the form of humanity and piety" (p. 67).

The application of the theory to the order or classification of the virtues follows obviously enough, and is developed with much skill in chapter iii. Reference has already been made to the discussion of "the moral criticism of Fine Art (chap. v.), from which one or two leading statements may be quoted. Speaking of the claim of art to exemption from moral criticism, Prof. Perry says: "In the first place, it is assumed that morality, too, is a special interest; and that if the artist or connoisseur lets the moralist alone, it is no more than fair that the moralist should let him alone. But this assumption is false; as false as though the athlete were to chafe at the warnings of his medical adviser on the ground that general health was irrelevant to endurance or strength or agility. . . . The second misapprehension that lends plausibility to the excuses of art is the assumption that the moralist is proposing to substitute his canons for those of art." But the moralist "is charged with defining and applying the principles which determine the good of interests on the whole; and while his conclusions can never replace those of the expert within a special field, they will always possess authority to overrule them" (pp. 174-176). Speaking of the *truth* of art, he remarks: "If art were only realistic in the full sense, an unequivocal representation of the laws of life, it would invariably justify and support the moral will; it would be idealistic" (p. 206). Many other statements of the kind might be quoted from this and other chapters of the book to show that the author is one of those of whom Matthew Arnold speaks, in a passage quoted by himself, "who have laboured to divest knowledge of all that was harsh, uncouth, difficult, abstract, professional, exclusive; to humanise it, to make it efficient outside the clique of the cultivated and learned, yet still remaining the *best* knowledge and thought of the time, and a true source, therefore, of sweetness and light".

JAMES SETH.

Kant's Begründung der Ethik nebst ihren Anwendungen auf Recht, Religion und Geschichte. Von HERMANN COHEN, Professor an der Universität Marburg. Zweite verbesserte und erweiterte Auflage. Berlin : Bruno Cassirer, 1910. Pp. xx, 557.

THE first edition of this book appeared in 1877. It now appears in a very much enlarged form. The earlier part has grown to almost twice its original size. The last 187 pages, treating of the application of the principles of Kant's Ethics to law, religion and history, are entirely new.

In a new edition of an important book on Kant we might expect to find use made of the abundant material made available by the researches of Beno Erdmann and others. Riehl, for example, in the new edition of his *Geschichte des Kritizismus*, published last year, has made striking use of Erdmann's *Aufzeichnungen* and Kant's *Nachlass* to confirm and illustrate his interpretation of the *Critique*. The changes in Prof. Cohen's new edition are not due to his use of such material. There are no references either to Kant's *Nachlass* or his correspondence. The changes are none the less interesting for this. The author says in the preface that he has used the material provided by his own working out of Kantian problems in the second edition of his Kant's *Theorie der Erfahrung* and in his *Logik der reinen Erkenntniss* and *Ethik des reinen Willens*. The first edition insisted on the vital connexion between Kant's Metaphysic and his Ethics. It was only natural that after prolonged work on Kant's theory of experience and after the working out of his own system, thoroughly Kantian as that is, that he should have much to add to his original account of Kant's Ethics.

Prof. Cohen's interpretation of Kant is too well known to need further review; but it may be worth while to notice first those points in his exposition which the second edition has made more prominent, and secondly to consider that part of the book, the application of ethical principles, which is entirely new, and see how far that confirms or throws doubt upon the main lines of Prof. Cohen's interpretation.

The author says in his preface that the changes in the second edition are greatest in his account of the thing in itself. In his interpretation of Kant he lays stress on Kant's distinction of constitutive and regulative, and insists that Kant's idealism has nothing to do with the questions raised by subjective idealism, but as transcendental is concerned with the distinction between what is given in experience and the complete solution of the problems which experience raises but does not solve. The thing in itself, assumed originally as unknown substratum, came, he holds, to stand for the completion of a problem, and hence was identical with the idea. Therefore he concludes: "The idea remains the genuine root of idealism, the idea as thing in itself of the problem". This interpretation has its difficulties, but it has the great advan-

tage of accepting Kant's empirical realism and his belief in the objectivity of the sciences and of giving an intelligible account of Kant's conception of *a priori*. All Kantian students will be grateful for the masterly account of the real importance of logical distinctions in Kant's system given in the third chapter of the first part. Its purpose is to explain how the ideas are both the completion of the problems of the scientific understanding and the object of ethics, and therefore to connect Kant's ethics with his theory of experience. Prof. Cohen's account of Kant's ethics is based on the identification of the thing in itself with the idea regarded as ideal. Further, the distinction between the *a priori* which is the concern of philosophy and the *a posteriori* which science alone can furnish is applied also to ethics. Hence the notion of a pure ethic does not mean that all ethical questions are to be solved by *a priori* methods, but that constitutive *a priori* principles and regulative principles of application are both necessary in ethical as in scientific experience; *Ohne Anwendbarkeit keine Reinheit*. A pure Ethic is possible through the ideal notion of a community of autonomous purposes, and this ideal has reality as the perfecting of what is already implied in all moral action. The moral rules for this or that occasion are not deduced merely from the principle of pure ethic, but from the empirical circumstances in accordance with the principle, as the empirical laws of science are deduced in accordance with the principle of causation. On this view the application of *a priori* principles does not rest with philosophy, though it may be the concern of philosophy to show that the *a priori* principles are implied in the results of science.

When Prof. Cohen treats Kant's application of ethical principles from this point of view in the last part of this book, he seems to us to get into difficulties. He complains that Kant recognised in Ethics nothing corresponding to the mathematical science of nature, or in other words that the *Metaphysische Anfangsgründe der Rechtslehre* does not really correspond to the *Metaphysische Anfangsgründe der Naturwissenschaft*. He criticises Kant with much justice for exaggerating the element of force in law and for an inadequate conception of the state, with less reason he holds that Kant should have given up altogether the distinction between religion and ethics. His view is that Kant should have recognised law and the state as exhibited in history as showing the working out of the ethical ideal in the same way as the physical sciences exhibit the application of the *a priori* principles of experience. We are to understand law and the history of the state only in the light of the ideal. There is much truth in this conception, but surely it neglects the normative character of political theory and the great difference between the methods of politics and physical science. Law and moral practice can hardly be regarded as merely ultimate facts in which philosophy may discover principles but which it must not criticise, and they can be understood only if we

add to our apprehension of the ideal towards which they aim some understanding of how progress is actually made towards that ideal. The undoubted unsatisfactoriness of Kant's utterances in political theory is probably due to his not distinguishing as clearly as in his doctrine of experience between *a priori* and empirical elements. But to remove the difficulties in his theory we must not only make this distinction clear on the *a priori* side, as Prof. Cohen has so admirably done, but also examine the nature and methods of actual moral progress and consider how the differences between moral judgments and scientific inquiry must affect the application of *a priori* principles in either. On this point Prof. Cohen has little to say. This criticism is suggested by the contrast between the last part of this book, which seems scrappy and unconvincing, and the first three parts which give such a brilliant and profound justification of the *a priori* element in Kant's philosophy.

A. D. LINDSAY.

Studies in European Philosophy. By JAMES LINDSAY, D.D.,
Author of *Recent Advances in Theistic Philosophy of Religion*,
and other works. William Blackwood & Sons, 1909. Pp.
xxi, 370.

THIS is a collection of short Essays on various subjects connected with Philosophy and the History of Philosophy. The range covered by the Studies is immense. Some of them relate to ancient Philosophy, others to the systems of the Fathers and the Schoolmen, others to quite modern Philosophy. Three are devoted to French, Italian, and Spanish Philosophy; three others to the "metaphysical," "ethical," and "psychological development of our time". One is "a constructive Essay on Idealism," with special reference to Hegel and Berkeley. The volume represents in the main a contribution to the History of Philosophy rather than to Philosophy itself, but it is the work of a historian of Philosophy who has a position of his own and is well able to criticise and appreciate, as well as to chronicle, the systems and the tendencies which he examines. The range covered by the work is, however, so great and the amount of space devoted to each subject is so small that it is scarcely possible for a reviewer to do more than to say that the volume is very well worth the attention of all students of Philosophy. For most of us the chief value of the book will lie in the succinct account given of great periods of Philosophy about which most professed teachers and writers of Philosophy know little or nothing (*e.g.*, the recent philosophic output of Italy and Spain), and in the attempts to treat in a really philosophical manner periods and subjects (*e.g.*, "the philosophical doctrine of the Logos") usually abandoned to Theologians and ecclesiastical historians who have no pretensions to Dr. Lindsay's philosophical knowledge

and insight. Few students of Philosophy are so well informed as to be able to learn nothing from the critical and historical portions of Dr. Lindsay's book.

The "Constructive Essay in Idealism" may be described as an attempt to criticise Hegel's central position, and to suggest that its deficiencies can only be corrected by a genuinely Theistic Idealism. Some of the criticisms seem to me excellent as far as they go: the reservation is necessary merely because the Essay occupies only some thirty pages, and the author is obliged therefore to confine himself to generalities. "The vice of the Hegelian idealism as represented by some of its most noted recent expounders, lies just in this, that it makes thought constitutive of reality, instead of interpretative of it, and, in so doing, gives the categories of thought an unwarranted place in the interpretation of the Universe" (p. 211). "There is thus a sense in which the individual is a whole, as well as a part. The individual part, as part of reality, may well cry out, should he find very real sides of his nature sacrificed on the shrine of 'organic' metaphor" (p. 213). "The absolute experience must mean the fulfilment of moral ideals no less than the answer to rational questions" (p. 216). "The search of Neo-Hegelianism for a principle of unity, and its sympathy with evolutionary conceptions, have rendered plausible a presentation in which things subsist without substance and originate without cause" (p. 224). The general drift of Dr. Lindsay's criticism may perhaps be sufficiently indicated by these sentences. When he comes to the reconstruction of Idealism, he shows a commendable desire to keep close to experience, and to recognise all facts and aspects of the real world. The doubt that will be left upon the mind of many readers is whether he has not sometimes simply left standing side by side statements which refuse to be reconciled. How God is to be made distinct from individual souls, while yet including them in such a sense that the notion of a "finite God" can be indignantly repudiated, Dr. Lindsay has hardly made clear. He explicitly rejects Royce's teaching that "our consciousness is a portion" of the Divine consciousness; and yet insists that "Perfect Being [*i.e.*, apparently God]—internally personalised and externally individuated—may embrace a plurality of distinctive and personal manifestations" (p. 222). I have the same feeling about the writer's attempt to outline a Metaphysic which shall avoid the subjective Idealism which he attributes not merely to Berkeley but to Hegel, and shall yet remain Idealism. "Bodies and their operations must, I hold, exist independently of our sensations of extensive motion, and resistance, and matter must be credited with agency in virtue of its primary properties. The world cannot be allowed to be a mere system of possibilities of sensation, as with Mill and Berkeley, for our experience is of objective things, and not merely of sensations; it cannot even be admitted to exist, as with the Neo-Hegelians, only for experience, since our knowledge is pre-

cisely such as testifies to extra-mental reality" (p. 225). This last expression, "extra-mental reality," is hard to reconcile with the belief in "the Infinite Spirit of God as the one underlying Reality" (p. 225). That things exist outside my private mind no post-Kantian Idealist is likely to deny. But it may be questioned whether this can be for any sort of Idealist an immediate judgment, and not rather an inference forced upon him by the necessity of explaining the identity of some of his experiences with those of others, which he discovers through intercourse with his fellows. If Dr. Lindsay presses the immediate affirmation of common-sense that the table which I touch exists quite independently of my touching it, will not this involve him in ordinary dualistic Realism? 'Common-sense' assuredly will not be satisfied by being told that the table is indeed 'extra-mental,' but is yet after all only a part of a Reality which is all "Spirit". Though I cannot pretend to find Prof. Lindsay's solution wholly satisfactory, the attempt makes me wish that he would undertake a systematic exposition and defence of Theistic Idealism. The wish is strengthened by the perusal of the three chapters on "the philosophical developments of our time". They are full of highly suggestive criticisms and hints at a constructive Philosophy. The suggestions are always interesting, and sometimes even brilliant, but they are very imperfectly worked out. This is of course inevitable in the attempt to touch upon so many subjects in a single volume of 370 pages. It is at once the defect of such a volume, and the highest compliment that can be paid to it, to say that it leaves the reader unsatisfied.

H. RASHDALL.

VII.—NEW BOOKS.

Epochs of Philosophy (Edited by J. J. Hibben): *Stoic and Epicurean.*
By R. D. HICKS. London: Longmans, Green & Co., 1910. Pp.
xix, 412.

WHAT promises to be a useful series of text-books in the History of Philosophy opens well with this generally well-informed and very readable volume. In the main I can heartily recommend Mr. Hicks's work to the English reader anxious to make a first acquaintance with the third-century Greek philosophical systems. If I might suggest one or two general criticisms as to points which might be considered when the book reaches its second edition, I would urge that, as regards the Stoics, the author might ask himself whether the Socratic elements in their doctrine do not depend rather less than he follows the fashion in assuming on the "Cynics" and more on the Platonic tradition derived through Xeno-crates. Also it would be an improvement to make it clearer that the Stoic categories are a direct attempt to reproduce Aristotelianism with a materialistic colouring. *E.g.*, the *ποιόν* is simply the Aristotelian *έός* understood in a materialistic way as a current of *πνεύμα* with a particular intensity of *τόνος*. Mr. Hicks, by the way, should hardly have written of the first category as "Being or Something" without explaining that the terms are not equivalent; the original name was *τὸν* which was afterwards altered to *τι* on purpose to include the "incorporeals": which are not *ώντα* according to the Stoics. It is a more serious defect of arrangement that we hear nothing of the Academic polemic against Stoicism until we come to the chapters on Scepticism at the very end of the volume. The consequence is that the reader runs the risk of failing to see that the polemic of Carneades is really the turning-point in the whole history of Stoicism, since it must have been its annihilating effect which led to the remarkable reconstitution of the whole system by Posidonius. This leads me to observe that the most serious defect of Mr. Hicks's volume is his failure to appreciate the significance of Posidonius, who is barely mentioned in a footnote as an "heretical" Stoic, and cited once and again as a specimen of the tendency to Eclecticism in the first century B.C. What is not brought out as it should be is that Posidonius was the one man of real scientific genius the school produced, and that it was due to his brilliant accomplishments that Stoicism, which had previously been the faith of estimable but rather ridiculous faddists, became a possible philosophy for the world. The author's failure to see that only the genius of Posidonius made it possible for the school to survive the attack of Carneades causes his account of the Roman Stoics to be a little puzzling. Any reader will discover for himself that, even in their English presentment, Seneca and the Stoic figures in Cicero, and the Emperor Marcus are not quite of the same type as the original followers of Zeno, but what has crossed the stock is not made sufficiently plain by Mr. Hicks. It is in reality the vein of Platonism in Posidonius.

Mr. Hicks does not seem to feel quite as much as I do myself that the same kind of difference exists even between two Stoics so nearly contemporary as Seneca and Epictetus, the former of whom is saturated with the cosmology and psychology of Posidonius, while the latter, for whom these subjects had less attraction, remains in the main faithful to the rather wooden intellectualism of Zeno and Chrysippus.

The treatment of Epicureanism is full, sympathetic, and learned. In fact its one defect, to my own mind, is that it is too sympathetic. It is really a mistake to take Epicurus as a man of science seriously at all. His real place, as far as science goes, is with the earth-flatteners and the secularist orators of the London parks. His physical theories are simply the scientific Atomism of Democritus ruined and made laughable by the attempt to amalgamate it with the Physics of Aristotle; in the whole of his *Ethics* there is not one idea which has not been either appropriated from or suggested by the desire to controvert the *Philebus* and the *Ethics*. The real worthlessness of what Epicurus was pleased to call his "philosophy" may be gauged by the single consideration that he included an ultra-sensationalistic theory of knowledge, and the ultrarationalist doctrine of Atomism (which can only be maintained, as Democritus had seen, by regarding sense-perception as inherently illusory), as parts of a single "system".

I could wish Mr. Hicks had called attention to the supreme importance for the study of Epicurus of the Academic dialogue *Axiochus* which, as Immisch has shown, belongs to the first years of Epicurus' activity at Athens, and opens the long controversy between the Academy and the Garden, as the representatives of the religious and the secular interpretations of life. Another work of which mention should have been made is the *De Mundo*, an admirable product of the Posidonian school, which would have lent itself naturally and usefully to comparison with the poem of Lucretius. When all allowance has been made for the poetic genius and impressive moral personality of the Epicurean poet, it would appear, I think, that the Platonising Stoic represents at once genuine piety and true science as against the eternal combination of sham science with secularism.

With regard to the interesting chapter on ancient scepticism, I should like to throw out a suggestion which has not, I think, occurred to the author. In his, as in other, accounts of the Platonic succession there is a puzzling shifting from the definite teaching of the early Academy to the alleged pure agnosticism of Arcesilaus and Carneades, and back again to the "dogmatism" of the still later Platonists. But I would ask whether it is so certain that the New Academy was really agnostic at all. All the anti-dogmatic reasoning of Arcesilaus and Carneades is strictly dialectical, as Mr. Hicks often points out in connexion with special arguments. What they set out to prove is not that there is no such thing as assumed knowledge, but that on the Stoic premises there can be no such thing. Now this would have been held as firmly by Plato himself as by any one, since he always denied that there can be *ἐπιστήμη* of the sensible. Hence the New Academy might have held in every respect to the positive doctrine of Plato without in any way forfeiting their right to argue that on Stoic premises "assurance" is impossible. There are two considerations which suggest to my own mind that this was actually their position. One is that the tradition of the old Academy was so well preserved. If the Academy had ever become a home of mere agnosticism it is hard to see how, e.g., Plutarch could have been so admirably informed as he is on the traditional exegesis of the *Timaeus*. The other is that the professed sceptics from Enesidemus on always insisted that the New Academy did not represent the real sce-

tical position. Whatever we may think of the way in which a writer like Sextus explains the nature of the difference, the fact at least that his succession refused to admit the genuine agnosticism of the Academics has to be accounted for. I might even add that the view which he regards as Academic would only be possible to persons who accepted an essential Platonic doctrine. The Academic, he says, professes to *know* that "assurance" is impossible. If this is correct, the New Academy must have held at least the Platonic doctrine that there is no science of *γνῶμενα*.

A. E. TAYLOR.

Consciousness. By HENRY RUTGERS MARSHALL, M.A., L.H.D. London, 1909. 8vo, pp. xv, 685. Price, 17s.

Nothing is more needed in psychology at present than careful consideration of its fundamental conceptions, and a book on the subject from Mr. Marshall's pen is sure to be widely read, despite the growing difficulty of his language. It would be no special compliment to a psychologist of Mr. Marshall's distinction to say that his book deserves close study and is full of good things. So much may be taken for granted: the important question is whether his main positions are tenable. They do not appear to me to be tenable. Readers of *MIND* are already more or less familiar with them, for a considerable part of this book is a reproduction of the substance of arguments which Mr. Marshall has developed in recent numbers of *MIND* (*e.g.* N.S., Nos. 37, 44, 57, 61), and a lengthy exposition of them here is therefore unnecessary.

Mr. Marshall remarks in his Preface that a metaphysician might object that his initial assumptions "involve metaphysical considerations," and this objection he tries to counter by the statement that metaphysical problems are concerned with "complex conceptual systems" which are "emphatic parts of my consciousness" (*i.e.* presentations) "when I turn to their consideration". Thus he regards the psychologist's problem as "more general" than the metaphysician's, and so robs of its cogency the claim which psychologists justly make, and which he makes on pp. 271-272, to be allowed to assume the existence of an objective order in the same way in which it is assumed by ordinary thought or in any other science. For that claim is admissible only if the psychologist remembers that his study is not final, but starts from metaphysical presuppositions which it is precluded from examining; yet, so far is Mr. Marshall from acknowledging this that, regarding psychology as the more general study, he actually appends to his psychological analysis a chapter of Corollaries in which he draws from it conclusions concerning responsibility, freedom, and immortality. It is not difficult to understand the impatience of some metaphysicians with psychology when a writer of Mr. Marshall's eminence can proceed in this fashion.

Nor does Mr. Marshall's analysis of consciousness seem to me at all satisfactory, and on it the whole of his doctrine depends. By consciousness he means very much what the ordinary person means by mind or spirit—"psychic existence," as he calls it. The object of the analysis is first of all to enumerate its "parts". Mr. Marshall uses spatial metaphors so freely, and with so little reflection on their metaphorical character, that the map of consciousness on page 6 quite suitably illustrates his position. In it appear two great regions of consciousness, (i.) presentations, and (ii.) the self. Presentations include (i.) "the empirical ego," and (ii.) objects. The self is the unrepresented part of consciousness, *i.e.* "the field of inattention". Presentations are the "emphatic" part

of consciousness at any moment, corresponding to emphatic activities in the nervous system ; but, just as Mr. Marshall assumes, the nervous system is always active to some extent in every part, so also, on the assumption of "noetic-neurergic correspondence," consciousness must be a system which includes much more than these "centres of emphasis," and the remainder, "the vast undifferentiated mass," is the self. It receives presentations and reacts upon them. Obviously it changes from moment to moment, so that there is not really a self, but a succession of instantaneous selves, each of which is "new and unique".

Thus thinking consists in the presentation of one "part" of consciousness to another. When I think, e.g., of an "object in the outer world," the psychological account of the matter is that a "complex systematised concept" is presented to and received by the "field of inattention," and, as psychology is "more general" than metaphysics, we are left to presume that this is the last word about knowledge. Mr. Marshall does not seem to see that he has fallen back into all the old difficulties of the series that somehow knows itself, and that by laying stress only on difference he has abolished both knowledge and purpose. A doubt flashes at times across the reader's mind, whether he is not ironical—whether he is not making a covert attack upon the notion of "the stream of consciousness". Yet, as I said above, the book is in detail full of interesting and suggestive passages.

The printer has occasionally treated the author unkindly. Thus, on pages 10-11, *percepi* (three times), and, on page 94, "This is the phenomena".

T. L.

Mind and Its Disorders. A Text-book for Students and Practitioners.
By W. H. B. STODDART, M.D., F.R.C.P., Assistant Physician to
Bethlem Royal Hospital. With illustrations. London : H. K.
Lewis. Pp. xvi, 488.

This is one of the best text-books I have yet seen. It is well adapted to its primary purpose, namely, to "provide the student and practitioner with a succinct account of our existing knowledge of mental diseases". The exposition is divided into three clean-cut parts: first, Normal Psychology; second, the Psychology of the Insane; third, Mental Diseases. This division enables the author to set forth in sequence the general propositions of psychology, to emphasise the special features of disordered 'mentation,' and finally to fit the practical examination and treatment of the insane more or less systematically into a coherent system. The first part, it is true, is somewhat dogmatic in statement and tone ; but this is an incident of the method of the book rather than a sign of a dogmatic attitude. When psychology has to be condensed into a hundred pages,—these to include intelligible indications of the most recent methods of research,—the dogmatic form is unavoidable. Fortunately, the author, unlike many other writers on insanity, has clear ideas of the limits of psychology and metaphysics. He frankly states his chief pre-supposition and goes forward : "According to the second, or 'interactionist' school (I am not sure that the designation is very convincing), 'mind' is not to be regarded as a 'thing,' but 'mentation' is to be regarded as a process, having its physical basis in the brain. This is the scientific view of the present day, which will be adopted in this manual. Incidentally, it commits us to the view that insanity is a disorder of the process of mentation and therefore directly dependent upon disease affecting the brain, either primarily or secondarily" (p. 2). And again,—"that sensation is the essential attribute, the only essential

attribute, of conscious organisms and that all the more complex mental functions are derivable therefrom" (p. 7). The psychological sketch is conducted from these standpoints and the result is clear and distinct. It opens out the lines of further study without confusion. The second part, the psychology of the insane, follows the same general course, but with less elaboration. The third part is fuller and covers all the ordinary ground of modern diagnosis and treatment of mental diseases. There are several good illustrations. If the book has a fault, even from its own standpoint, it is that too many authors are mentioned without specific references to their books or articles. Doubtless, in a text-book such as this, space is very limited; but the practical value of the book would be immensely improved either by a good selection of references at the end of the chapters, or by indications in the text. In one matter, the author seems to me to carry the dogmatic method of exposition to the danger point, namely, where he says: "The pith of the whole matter is this: that among savage peoples the interests of the individual are subordinated to those of the race and natural selection is at work; while among civilised nations the interests of the race are subordinated to those of the individual, natural selection is allowed no play, and the result is the *survival of the unfittest*. This is the true cause of the increase of insanity; it lies under our very hands. The medical man is himself responsible for the increase of disease and the degeneration of the race. The physician who specialises in mental diseases is, or should be, a comfort and a blessing to his present patients, but he is a curse to posterity" (p. 163). This is a rather strong statement to be flung down without analysis. It seems to me unsound in its idea of natural selection and doubtful in its alleged facts. The author has got among dangerous abstractions, selection and survival, which are no more satisfying when issued without capital letters in the name of science than they were when issued as *Election and Effectual Calling* with capitals in the name of ancient theologies. His own book has materials enough for a strong case against both his assumed premises and his somewhat figurative conclusion. Those abstractions are too summary for problems so complex.

W. L. M.

Examination of Prof. William James's Psychology. By IKEAL KISHEN SHARGHA. Allahabad : Ram Narain Lal, 1909. Pp. 118. Price, one rupee.

In this little work, Prof. Shargha, who represents philosophy at Bareilly College, subjects James's psychological views to a searching criticism. In its form the book is a running series of quotations of statements regarding the following topics: brain and consciousness, externality of sensations, indivisibility of sensations and other states of consciousness, the self as known, the self as knower, conception, emotion and will. The criticism of these passages and their summary in each chapter go to show mainly that James is either inconsistent or arrives at results which are untenable. James's large work is still of course a favourite with all psychologists. Its friends continually increase in number. Even our so systematic cousins of the Continent have recently shown their devotion by translating it. But systematic criticism of it brings almost the same shock of surprise and regret as would the too close examination of the weather of one's homeland or of a wayward friend. We live not for their evil days, but for their brilliant, radiant hours. But, perhaps, just because James's psychology is so vital and attractive, it might be thought that its

hold on life lay in its philosophic build and not in the details of its structure, many of which are long outworn. Beginners especially might be prone to this belief. These and others interested mainly in the framing of large systematic hypotheses, Shargha's book is specially devised to enlighten.

The criticism of James's views on the relation between brain and consciousness may be passed without comment, as partially contradicting statements are more a matter of style of treatment and exposition than of system, where a progressive science like psychology has to be treated. Shargha rather overlooks the fact that a wide hypothesis regarding facts can hardly be final, but must be moulded from time to time to bind together the facts as they are gathered. From another point of view the same may be said regarding the chapter on the indivisibility of sensations and other states of consciousness. There are strong motives which urge us to maintain that some states of mind are compounded out of others, as many psychologists maintain, and others, equally strong, which force us to deny this. He who holds these opposing views in balance, even under the charge of inconsistency, may often do more to keep the facts alive than the most consistent apostle of the one side. The longest chapter deals, as one might have expected, with the self as knower. James's line of informative inconsistency gives place to a faith in one abiding substance underlying all modes of thought. "If the meaning of 'change' can be realised, we cannot be wholly ignorant of *that* which undergoes a change. The permanence and identity of the substance of mind must of course be largely a matter of faith. . . . The inmost nature of the self must remain a dark mystery, but from that it does not follow that it is absolutely unknown" (p. 59). The psychology of the concept, finally, is at the present time altogether too changeable and imperfect to withstand the charge of inconsistency.

"Most of the errors and much of the confusion which we find in his psychology are due to his inability to make up his mind as to the relation between brain and consciousness. . . . Prof. James consciously or unconsciously leans to the materialistic theory that the body is after all the real thing and that consciousness is a 'supernumerary phenomenon,' that neural changes are invariably the causes of mental states and are in no way affected by them" (p. 110). "And yet, unless we are very much mistaken, Prof. James is *not* a materialist. He has only adopted the materialistic hypothesis as a tentative method" (p. 116).

Prof. Shargha's criticism is clear and trenchant, and taken in conjunction with a thorough study of the originals by the general student beginning the study of psychology will doubtless help towards clear progress in the broadest problems of mind and so fulfil the purpose for which it is intended.

H. J. WATT.

The Ethics of St. Paul. By ARCHIBALD B. D. ALEXANDER, M.A. Glasgow: James Maclehose & Sons, 1910. Pp. xxiv, 377.

"The special aim of this volume," we are told in the Preface, is "to present in a systematic whole the various virtues and duties which the apostle inculcates," and its central thought is, "that morality is absolutely vital to St. Paul's religion". Even if the dearth of special works on the Pauline Ethics were as great as Mr. Alexander supposes, the different aspects of the subject have been treated time and again by writers on St. Paul and on Christian Ethics. And if it were possible to say anything fresh on the matter, our author has not said it. But the book has the merit of being a careful, well-informed and fairly complete

statement, and the writer lays proper stress on the spiritual experience which determined the apostle's life and teaching. Mr. Alexander's standpoint is in the main conservative. He accepts as genuine all the writings traditionally attributed to St. Paul, although, as he must know, there are good reasons for doubting the authenticity of the Pastoral Epistles. The book is divided into three sections: Sources and Postulates; Ideals and Principles; Duties and Spheres. The first section deals with the influences which shaped Paul's teaching, and it also treats of his Psychology. In the second part Mr. Alexander finds the characteristics of Paul's ethical ideal to be its Absoluteness, Inwardness, Symmetry, and Universality. A good chapter on the "Dynamics of the New Life" follows. But in signallising the defect of Greek Ethics in this regard, Mr. Alexander surely forgets the theory of *āperī* in the *Republic* when he speaks of Plato's conception of virtue as "spiritual aesthetics, the contemplation of the morally beautiful". In his third section the author discusses the Pauline doctrine of Duties: Duties to self and to others, Duties in relation to the family, the State, and the Church. The final chapter on "The Ethical Ultimate of St. Paul" sums up the conclusions of the book. "This unity in diversity, this fearless recognition of the antinomies of life and thought, and the attempt, not to suppress but to combine them in a higher synthesis, is acknowledged by every student of St. Paul's philosophy of life" (p. 363).

Detailed criticism is not possible here, but Mr. Alexander seems to us too anxious to find the Pauline teaching coherent and systematic. For instance, he thinks those passages where Paul speaks of the flesh as naturally sinful, must be construed so as to be consistent with the Pauline idea of redemption. Similarly, the ascetic element in the apostle's temper, which comes out in his views of marriage, hardly receives due recognition. Again, though the writer knows the apostle's mind was greatly influenced by the thought of a speedy Second Coming, he allows the fact to remain very much in the background. The result is that Paul's interest in the state and political society is exaggerated. Only when we remember his eschatological outlook do we realise how it was possible for the large-minded Apostle to the Gentiles to regard the external organisation of society, and even the institution of slavery, as among things indifferent.

G. G.

The Mental Symptoms of Brain Disease. By BERNARD HOLLANDER, M.D., with Preface by Dr. Jul. Morel, late Belgian State Commissioner in Lunacy. London: Rebman, Limited, 1910. Pp. xviii, 237.

As what it professes to be, namely, "an aid to the surgical treatment of insanity, due to injury, haemorrhage, tumours, and other circumscribed lesions of the brain," this book will be of great service. It brings together, from a very wide field of reading, several series of cases classified and discussed in relation both to their mental symptoms and to the brain lesions discovered in association with these. As a reference book, therefore, every student of cerebral surgery will welcome this scientific summary of results up-to-date. On the more general question, the relation of mind and brain as a whole, there is not much that is new, although the theory of localisation gains greatly in precision from the study of the individual instances. It is, however, a pity that, on the very first page, we should have somewhat crude observations like this: "True, no one would agree to-day with Sir William Hamilton and John Stuart Mill, who still taught that 'mental phenomena do not admit of being deduced from the physiological laws of our nervous organisation,' but it seems that the

influence of antiquated metaphysics based on the results of self-introspection has not yet worn off entirely. For mind is still regarded by some as if it consisted of intellect alone, whereas we all *feel*, as well as think, with our brains" (p. 1). It is not worth while in a short notice to analyse out the curious mixture of ideas here offered us as if it were really the latest thing in psychology, but I give the quotation as an indication of the extraordinary tendency of works like these to start with metaphysical tags that have little or no relevance to their special work. When, however, Dr. Hollander passes to his real text, the localisation of brain functions and the mental symptoms of definite cerebral lesions, he has much that is relevant and important to say. A very large number of references are given in the text, and these will be of the utmost practical value; but here and there one finds names of authors without any note of the specific work or page, and occasionally sentences like this: "F. Bevan Lewis, Clarke, Nissl, Bolton, Cajal, Campbell, Vogt, Mott, Brodmann have done most praiseworthy work in this direction" (p. 13). But where the references are so numerous and the mass of collected cases so great, it is ungracious to find fault with minor omissions or unrelated Homeric lists of names. The book covers discussions on the mental symptoms of lesions of the frontal lobes, the parietal lobes, the temporal lobes, the occipital lobes, the functions of the cerebellum, the skulls of the insane and the operative treatment of insanity. The reader of *MIND* will find much to interest him and to show him how much remains to be done before the functions of the brain can emerge into system or the "antiquated metaphysics" due to "self-introspection" come to its own. We may leave it to the Experimental Psychologists to say how much truth there is in the statement: "We are disposed to think that exaggerated notions are entertained as to what experimental psychology can actually accomplish. It is practically restricted to the measurement of sensations and movements and the gaps between them, and of the simplest mental processes" (p. 5). The implication that "sensations" and "movements" are not "mental processes" may be left to the metaphysicians or general psychologists, either of whom, I imagine, will be able to understand what the writer means in spite of his language. The book is well produced.

W. L. M.

The Power of Concentration. By EUSTACE MILES, M.A. London : Methuen & Co. Pp. xv, 196.

In this book Mr. Eustace Miles, with the selective skill of a trained teacher, brings into a small compass a large number of most valuable directions for the practice of life. He not only writes the book, but indicates to us how we should study it so that the study shall itself be a training in concentration. It is here impossible without disproportion either to summarise the many elaborate and justified instructions or to analyze critically their foundations. It is enough to say that, from the experience of himself and others, Mr. Miles is able to put his reader in the way of progressive education towards concentration. He emphasises the duty of putting "first" things first, since "ideal concentration" helps, and does not hinder, proximate concentrations. "The true physical parent or grandparent of ideal Concentration is proper breathing and a relaxing of the muscles from all unnecessary effort. This is against the popular notion of Concentration, which assumes that a man is not concentrating unless he is *showing* great effort and strain. It is maintained that the true son and successor of ideal Concentration is delegation, together with occasional supervision . . . that concentration is not an end, but only a means to an end—namely, liberty to attend more closely to the

highest things in life, because the lower things are handed to our servants within us" (p. xiii). The whole exposition is lucid and relevant, so lucid, indeed, that one is apt to forget how difficult of attainment such lucidity in practical instruction is. The book is a sound addition to the handbooks of personal discipline.

W. L. M.

Mentally Deficient Children: Their Treatment and Training. By G. E. SHUTTLEWORTH, B.A., M.D., etc., and W. A. Potts, B.A., M.D., etc. Third Edition. London : H. K. Lewis, 1910. Pp. xviii, 236.

Of this volume all that need be said is that it is the third edition of an excellent first. Dr. Shuttleworth, after many years' experience, had, among our earliest workers in this field, set forth in a systematic way his methods of dealing with "mentally defective" children. In the present edition much has been added both to text and illustration. In the interval between the second edition and the third the Commission on the Care and Control of the Feeble Minded conducted its very extended investigations into the nature and prevalence of "feeble-mindedness". This edition takes full account of the latest work. It is, therefore, an admirable hand-book to this whole department of treatment and education. There is a good bibliography, a good index of subjects and an index of names. As the point of view is essentially practical, the theoretical questions of the segregation or preservation of the so-called "unfit" and the related ethical questions are merely touched upon.

W. L. M.

Les Névroses. Par Dr. PIERRE JANET, Professeur de Psychologie au Collège de France. Paris : Ernest Flammarion, Editeur, Bibliothèque de Philosophie Scientifique. Pp. 397.

This well-filled volume of 400 pages contains a generalised statement, with adequate detail, of Dr. Pierre Janet's well-known researches and theories. As he points out in the Introduction, in the last twenty years he has published large volumes of special studies on the neuroses, giving psychological and physiological details of some 500 cases. Naturally, these masses of observations have organised themselves around certain general hypotheses, which it was eminently desirable to bring together. The book is divided into two main parts. The First Part deals with neuropathic symptoms, including fixed ideas and obsessions, the amnesias and doubts, language troubles, choreas and tics, paralyses and phobias, troubles of perception, troubles of the instincts and visceral functions, such as troubles of sleep, nutrition, respiration, etc. All through this exposition of symptoms, a distinction is made between hysteria and psychasthenia. The Second Part expounds the neuropathic states, including nervous crises, neuropathic stigmata, the mental state in hysteria, the mental state in psychasthenia. The final chapter is devoted to the question: What is a neurosis? It is needless here to re-expound Janet's doctrines. After a full exposition of symptoms, hysteria and psychasthenia as states have a chapter each. Dr. Janet lays great stress on the difference between the two states. "Hysteria is above all a disease of the personality. . . . It is a form of mental depression characterised by a contraction of the field of personal consciousness and by a tendency to dissociation and to the setting loose of the systems of ideas and functions that, by their synthesis, constitute the personality" (p.

345). Psychasthenia, on the other hand, is a "form of mental depression, characterised by the lowering of mental tension, by the impairment of the functions concerned with reality and the perception of the real, by the substitution of operations lower in the functional hierarchy and exaggerated in the form of doubts, agitations, anxieties and obsessional ideas, which express those troubles and which themselves present the same characters" (p. 367). It is obvious that psychasthenic features may appear in hysterical cases. Both hysteria and psychasthenia are neuroses. "The neuroses are disturbances of the different functions of the organism and are characterised by arrest of development without deterioration of the function itself" (p. 392). The minute psychological analyses so familiar in his writings, Dr. Janet regards as an indispensable preliminary to any successful system of psycho-therapeutics, which he hopes to take up in a subsequent volume. From this brief summary, it is obvious that the small volume forms an admirable introduction to this immense and ever-widening field of study.

W. L. M.

Die hermeneutische Induktion in der Talmudischen Litteratur: ein Beitrag zur Geschichte der Logik. Von Prof. Dr. ADOLF SCHWARZ. Wien und Leipzig: Alfred Hölder, 1909. Pp. 256. Price 7 40 marks.

Although this work is called "A Contribution to the History of Logic," it is evidently intended for that rare type of logician who is fully at home in the Jewish Oral Law; for Dr. Schwarz's pages contain untranslated extracts from the Talmudim and Midrashim, which only a limited number even of Hebraists could construe with ease. On this subject indeed he writes as a master; and those who can follow him will be grateful for his elaborate analysis of the exegetical methods to which this book is devoted. Being expedients for the interpretation of the Mosaic Law, they belong rather to the discipline called by the Arabs "Principles of Jurisprudence" than to Logic; and it seems doubtful whether any useful purpose is served by attiring them in the ill-fitting terminology of the Aristotelian *Organon*. Dr. Schwarz indeed tells his reader somewhat peremptorily that he had better attend lectures on Logic if he cannot see that a certain form of argument in the Mishnah is a "Spezies-Induktionschluss" in the spirit of Aristotle; examples are the following: in Deuteronomy xxii. 1-3 the finder of lost property is told to restore it, the objects enumerated being an ox, an ass, a garment, and any lost object. Granting that live stock deserves special mention, the Mishnah asks why is not a garment included in "any lost object"; and replies that it is to indicate that by "lost object" the legislator meant "object capable of identification and so of being claimed". In Exodus xxi. there is a rule about pits, making the digger responsible for the loss of any animal that falls in and is killed; the Mishnah makes the term "pit" cover any form of excavation. Now is the term Induction really suitable for processes of this sort? According to Sigwart's *Logic* (a manual to which Dr. Schwarz often refers) the reply would seem to be in the negative. "In the logic of Jurisprudence the process of disengaging the legal principle from some special determination of which it is the ground is known as analogy" (trans. Dendy, ii. p. 209); the second of the above examples (inferring from a pit to caves, etc.) would seem to come under this head. The first example is far less easy to label, because it appears to be a thoroughly inconclusive argument. A garment, unless it happened to be marked, might be as difficult of identification as a coin; a coin, if it happened to be chipped, might be as easy of identification as a marked garment. The legislator might have added "any lost object" in

order to include such as did not admit of identification—if there be any, strictly speaking. The lecture on Logic which would show that this reasoning was in the spirit of Aristotle ought not to have been withheld by the writer.

Fortunately the value of his book by no means depends on the appropriateness of his nomenclature. The endeavour to reconstruct the historic development of the Rabbinic exegesis seems to be both praiseworthy and successful: though the proof of his assertion that the commencement of it goes back beyond the time of Ezra, whence Ezra cannot have been the Editor of the Pentateuch, does not appear to be given. To the Biblical critic the historical character of Ezra is at the least doubtful; nor can he look to obtain any exact knowledge from a mass of tradition not written down till at least a millennium after the supposed Ezra's death, and found to be inaccurate whenever it can be checked.

D. S. MARGOLIOUTH.

Francis Bacon und seine Quellen. Erster Band: *Bacon und die griechische Philosophie.* Von EMIL WOLFF, Dr. Phil. (Literarhistorische Forschungen, hsg. v. J. Schick und M. Frh. v. Waldberg, XL.) Berlin, 1910. 8vo, pp. xxx, 301. Price, M.10.

This is the first part of a "gekrönte Preisschrift" from the University of Munich, and, though it appears in a series which is for the most part devoted to the history of literature rather than philosophy, it deserves notice in the pages of *MIND*. It is primarily a study of the references to Greek philosophers that are scattered through Bacon's works, and, taken as that and nothing more, it appears to be (so far as I have had opportunity to test it) both accurate and complete. The connexions established through some common origin between phrases in Bacon's philosophical treatises and phrases in his other works are often interesting and enlightening, as also are the author's occasional deviations into Kepler, Galileo and Montaigne. I would complain only that Dr. Wolff has not divided up his three very long chapters into sections in accordance with his Table of Contents: as it is, a new paragraph at one time means only a slight change of topic, at another a jump from one Platonic dialogue to another, or even from Epicurus to the Pythagoreans, so that the reader is often confused and disconcerted.

But the author evidently intends his book to be, in the second place, a disquisition on the relation of Bacon's thought to that of Greece, and thus regarded it is less satisfactory. It displays a large acquaintance with the writings of Greek philosophers, but not an equal understanding of their philosophy. In his view of Plato and Aristotle, in particular, Dr. Wolff seems to have been unduly influenced by Grote, though he does in one place (p. 170) indicate his disagreement with a passage from Grote which he quite unnecessarily cites. Moreover he frequently makes statements which must seriously mislead readers who have not specially studied the history of philosophy, though in view of the nature of the series in which the book appears he ought to have been more than usually careful. Examples are, the use of 'subjective' in reference to the concept of causality (p. 168) and to the Aristotelian *ἀρχαί* (p. 170), the exaggerated statement that Bacon's method is in the end the same as Plato's (p. 143), the false antithesis between the logic of scientific method desiderated by Bacon as presupposing the existence of empirical science and Aristotle's logic as "entirely independent of all external experience" (p. 232).

Considering the number of languages used in it I find the book singularly free from misprints. It is to be hoped that at the end of the next

volume Dr. Wolff will give a table of the passages in Bacon which he has referred to their sources and of these originals themselves.

T. L.

I Maximi Problemi. BERNADINO VARISCO. Libreria Editrice Milanese. Milan, 1910. Pp. xi, 331.

If I do not propose to review Prof. Varisco's work at any great length the reason is that I am so convinced of its importance that I should despair of doing justice to it in any notice which did not run to the length of an elaborate critical article. It is a long time since I have had the good fortune to meet with a work in which the really vital issues of Philosophy are discussed with so much knowledge, sound judgment, and, to my mind, with so much originality. I would especially commend both the tone of moral elevation which breathes from the author's pages, and the admirably philosophical method which he has adopted. The present work is one of those very rare ones which genuinely realise the Platonic conception of dialectic, that it should be the "discourse of the soul with itself". Where the average writer on Philosophy thinks of little more than successful silencing of opponents from some camp whose flag is not his own, Prof. Varisco devotes little space to formal controversy; like Socrates, he allows us to share the inner dialectical development of his own thought as he makes his way from simple and every-day assumptions by the process of self-criticism to a position which leaves him prepared for the crowning task of the identification of the "good". This dialectical procedure, together with the author's devotion to a pregnant and compressed style, makes his book, as he himself confesses, hard reading, but, as he himself also says, it is no part of the business of Philosophy to be easy, and I can assure any reader who thinks fit to study the volume before us on my recommendation, that he will find the time spent in following it to its conclusion most profitably employed.

The "chief problems" with which the book deals are those which are involved in the choice between what seem to be the two ultimate attitudes towards the Universe possible to the contemporary European mind, the attitude of Positivism and that which may be roughly said to be the attitude of Christianity. We are gradually led on, by a process of unremitting self-criticism, from the postulates tacitly implied in our every-day theoretical and practical assumptions about reality to a philosophical theory which, to the British reader, will recall the doctrine of T. H. Green, but we are not allowed to stop there. Like Green, the author sets himself to show, and with greater definiteness of thought than Green ever attained, that the very possibility of conscious reflection on experience and its development into science presupposes that there is an objective reason which is numerically one and the same in all persons and in the world outside them. But, unlike Green, he is not dominated by intellectualistic prepossessions, and so is able to hold equally fast to the conviction that the individual personality which forms the supreme "value" for Ethics, must also for Metaphysics be no less real than the "One". The relation between them, whatever it may be, is not, and cannot be that of "appearance" to "reality". Hence the metaphysical view to which we are finally conducted is a Monadism closely resembling that of Leibniz. But it is a Monadism purged, and, as far as I can judge, successfully purged, of the worst features of Leibniz's doctrine, the absence of real interaction between the Monads, the Pre-established Harmony, and the rigid Determinism. Even in the purely physical world (which is conceived of as consisting of psychical elements not united together in the peculiar way in which our percepts and our purely "private" ex-

periences, our feelings and activities, are held together in a single "unity of consciousness") there must be sequences which are not completely determined, and genuine fresh beginnings, unless every phase of the Universe is to be indistinguishable from every other. The actual course of events cannot be simply determined once for all by the laws of relation subsisting among the various monads; the spontaneity inherent in the individual monad must be taken into account as a factor which may in contradistinction to the causal laws of reciprocal action between the monads, be called a-logical, but must *not* be called irrational, since the really irrational assumption would be the denial of spontaneity.

The author's treatment of this part of his topic calls for special commendation. It is all the more masterly from his entire avoidance of the rhetorical appeals to feeling with which the case for partial Indeterminism is commonly argued, and from his thorough familiarity with mathematical Physics. So far, however, we have not reached the "greatest problem" of all, the choice between belief in a purely immanent "reason in the world," without the individual permanence of the persons in whom it reaches its fullest expression as known to us, and belief in a Reason which is transcendent as well as immanent, with the permanence of personalities, *i.e.* in the Christian conception of a personal God as the source of the Universe. Followers of Dr. McTaggart should be interested by the careful argument advanced to show that the apparent third alternative, immortal personalities without an absolutely supreme personal God, is excluded. The main point is this. The arguments which lead us to assert the presence of rationality as immanent in the Universe justify us in holding that the action of every individual in it, from the "bare monad" up to the rational person, are throughout teleological. But they do not justify the belief that the Universe as a whole is a being with an end to be realised. They leave open the possibility that it is not, and in that case, the history of the Universe, if we may call it a history, might present a mere unending kaleidoscopic reshuffling of its elements, in the course of which the "bare" monads might repeatedly go through the processes of evolution into personality and reinvolution to the state of mere monads, but there would be a complete discontinuity between the personal lives of a monad in its successive periods of "evolution". Continuity—in other words, immortality—can only be guaranteed if we have a right to regard the whole course of the Universe as having for its supreme law the teleological principle of the conservation of values. In the author's words: "Absolute continuity of development, the permanence of values, cannot be preserved if the concretes are the sole determinations of Being, if the potential value of Being only becomes actual in single persons, which, in that case, being subject to the chains (external to each of them) of a necessary and therefore non-teleological causality, can only be transitory. To secure the permanence of values we need to admit that causal necessity is subordinate to intentional finality, *i.e.* that Being is endowed with further determinations than the concretes, and produces the concretes within itself, not from the necessity of determining itself, but to secure an end, to realise a pre-established design. In that case, the notion of Being is transformed into the traditional notion of God."

In the present work the issue thus expressed is allowed to remain undecided. The writer contents himself with an able vindication of the position that no decision can be given unless the practical reason is allowed a hearing. We have to remember that the cheap Positivist solution by appeal to the "immortality of the race" is nugatory, since without the principle of the permanence of values we have no right to believe in any such thing, and with the principle we are justified in believing in

the preservation of the individual personality. On this alternative we have a duty and a right to ask the verdict only of the man who is, in the Gospel phrase, *ex veritate*, that is, the man who is "pure of heart," who "desires only that which is desirable *in se*," who "regards and feels as good, as value, that which is good, is value, *in se*". For himself the writer is content to say, "I believe in the permanence of values. But I naturally cannot give as an argument this personal conviction of my own, strong as it is, and justified as it seems to me to be."

A further volume is promised in which the historical affinities of Prof. Varisco's doctrine to the leading philosophies of the past are to be fully treated. If it is anything like as good as the present work, it is to be hoped that its appearance will not be long delayed, and that both books may soon find competent translators into English.

A. E. TAYLOR.

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VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xix., No. 3. **H. S. Shelton.** ‘Spencer’s Formula of Evolution.’ [Spencer’s formula of evolution, and his principle of the persistence of force, are purely physical, and their truth or falsehood is wholly independent of metaphysics. Under the persistence of force, Spencer comprises, with modifications, the two comprehensive generalisations of the conservation of energy and the indestructibility of matter. His evolutionary formula must be accepted as true : its inductive verification, contained in the whole of his philosophy, is overwhelming ; the latter deductive proof is also, in the main, a piece of sound reasoning. Its practical value is less than that of the great physical generalisations, simply because it is a qualitative and not a quantitative formula ; but even so it has proved of service in psychology, sociology, and biology, where the conditions are so complex that the other principles give us little help. It is not disproved or discredited by any of Ward’s criticisms.] **J. Lindsay.** ‘The Philosophy of Schelling.’ [Exposition, with running commentary, of the main positions of Schelling’s system ; distinction of three periods : the Spinozistic, when Schelling is occupied with the problem of God ; the period of philosophy of nature ; the period of interest in transcendental idealism.] **E. G. Spaulding.** ‘The Logical Structure of Self-refuting Systems. I. Phenomenalism.’ [Continuation of paper on the postulates of a self-critical epistemology, in vol. xviii. Criticism of the internal view of relations. Generic phenomenalism insists that modification is necessarily involved in the knowing process, and that, by virtue of a certain characteristic of knowing, we can never know what reality would be like as not-known or as thing-in-itself. It is self-refuting, since it presupposes the internal view of relations and the method of enumeration as applied to the infinite regress. With the original phenomenism (Kant) fall also subjective idealism (Berkeley), transcendental idealism and ontological absolutism (Fichte, Hegel), and ontological voluntarism (Schopenhauer, Nietzsche) ; there remains the self-Confirming and self-critical system of evolutionary realism.] **W. E. Hocking.** ‘How Ideas Reach Reality.’ [Idealism rightly declares that the original and naïve attitude of the mind to its objects requires to be interpreted. But the distinction between what I am and what I think is persistent for finite subjects ; sensation, for instance, is a point of vital contact with an independent reality ; and there are also ideas and feeling of this reality. Mind has its principles of experiment, the ideas of cause, substance and the like, which are not subject to correction and error as are its common predicates ; the existence of the independent object is, in fact, the most general subject-matter capable of ontological proof ; real objects are independent in whatever sense we can imagine or think or inquire about or deny their independence. We are thus led back to Spinoza’s definition of substance, not because logic controls nature, but because logic is nature, the only form in which nature can now be approached by human consciousness.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

PSYCHOLOGICAL REVIEW. Vol. xvii., No. 3. **K. Dunlap.** ‘The Complication Experiment and Related Phenomena.’ [Experiments with

Burrow's apparatus, to which was added a closely apposed screen of white mosquito-netting, for the purpose of steadyng fixation. . . . There are three ways of judging the position of a moving pointer, at the moment of occurrence of a discrete stimulus. The eye may follow the pointer; in this case the errors are positive. The eye may, at the critical moment, be practically at rest; under these conditions, the errors are small, and indifferently distributed. The eye may not be obviously following the pointer, and yet the image of the pointer is not blurred (as with the resting eye), but tolerably distinct; this, the method of natural fixation or of rhythmic reaction, gives errors which depend on the retardation or anticipation of the 'reaction' (eye-movement?) whereby the clear image is secured; it is the method of judgment in all the classical work, from Wundt to Burrow. In the complication experiment, there is no illusion of time displacement: the displacement is real, and the fallacious perception is of simultaneity: simultaneous stimuli normally arouse subjectively simultaneous sensations (unless marked differences of duration are involved), and successive stimuli to different modalities are apt to be perceived as simultaneous even when there is a considerable interval between them. The interpretation in terms of attention is wrong.] **A. S. Ford.** 'The Pendular Whip-lash Illusion.' [Renewed study of Dodge's well-known illusion shows that the result depends, according to conditions, upon one of all of three factors: the fading of after-image streaks at their older ends; the fact that the limen of movement, as perceived by means of displacement of the retinal image, is lower than the limen as perceived by movements of the eyes; and the law of prior entry to consciousness of the stimulus which receives attention.] **J. E. Downey.** 'Judgments on the Sex of Handwriting.' [Repetition of Binet's test. Judgments by thirteen unpractised observers show that sex may be determined from handwriting in perhaps eighty out of one hundred cases. The presence or absence of sex signs, in the writing of a particular person, depends upon the amount of writing done; upon age, and, therefore, to a certain extent, upon practice; and upon professional requirements (conventional hand of teachers, rapid hand of bookkeepers). The observers show great individual difference, both in the rapidity with which they reached their conclusions, and in the degree of confidence with which they recorded their judgments. Pressure of social opinion (here leading to a constant error) is apparent in the tendency to ascribe originality to man's, conventionality to woman's handwriting.] **M. L. Billings and J. F. Shepard.** 'The Change of Heart Rate with Attention.' [*Breathing*, in visual attention, is decreased in amplitude, without regular change of rate; in auditory attention, is decreased in rate, without regular change of amplitude: these changes are adaptive, as deep breathing would interfere with looking, rapid breathing with hearing. In central attention (mental stimuli) there is very little change of any sort. *Heart rate* tends to increase with effort of attention; it increases also with increase of rate or amplitude of breathing, decreases with restricted breathing. This physiological dependency explains the decrease of heart rate often observed, especially at first, in sensory attention; central attention regularly increases heart rate. *Pulse* increases in amplitude with restricted breathing and decreased heart rate, and conversely; the change of heart rate seems to be the more important influence; its increase may decrease pulse, in spite of retarded breathing.]

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xxi., No. 3. The first four articles of this number are the addresses delivered by invited American guests at the Celebration of the Vicennial of Clark University, September, 1909. **H. S. Jennings.** 'Diverse Ideals and Divergent

Conclusions in the Study of Behaviour in Lower Organisms.' [Modern biology desires to see the processes of nature occurring, and to control and modify them as they occur. This desire has led to two methods of attacking the problems of behaviour in lower organisms: the synthetic method, which takes as its unit of work, or object of investigation, some physico-chemical principle or agent, and then subjects the organism to the operation of this agent; and the analytical, which takes as its unit of work the total organism—first watching the organism in its natural environment, with the aim of discovering all that it does; and then varying the environment, to see what difference this change makes in the behaviour. Workers by the second (and preferable) method are often charged with vitalism, anthropomorphism and finalism. But (1) recognition that arrangement of material, rather than material itself, is the essential point in determining behaviour does not necessarily make one a vitalist; it merely expresses the conviction that the problem is more complex than the orthodox physico-chemists have supposed. (2) There are, in fact, many fundamental resemblances, along with many differences, between the behaviour of even the lowest organisms and of man. To recognise these resemblances is to set a problem to physico-chemistry, not to deny the possibility of physico-chemical explanation. (3) We find again, in fact, certain marked relations between a present process and something that comes into being later—teleological relations, regulatory features of behaviour. To ignore these things is foolish; they form precisely the most difficult and the most complex problem for causal explanation; fortunately, we have the hope of a key to them in the observable formation of habits.] **F. Boas.** 'Psychological Problems in Anthropology.' [Anthropology is interested in three great psychological problems: that of hereditary racial differences in mental equipment, that of the mental characteristics of social groups irrespective of racial descent, and that of the psychological laws which govern man as an individual member of society. Taking up the third problem, the writer insists that we cannot argue from outward similarities of ethnic phenomena to community of psychological traits, but we must search for similarities of the psychological processes themselves, so far as these can be observed or inferred. This thesis is illustrated (1) by reference to primitive man's classification of concepts: fundamental linguistic ideas, religious notions, the categories of object and attribute, the setting off of incest-groups. We must know the basal categories under which phenomena are classified by man in various stages of culture; we shall probably find that their origin is not rational, but unconscious. (2) The typical associations of ideas must be studied, as they appear, e.g., in the nature myth, in decorative symbolism, in totemism. (3) There is a significant resistance to the change of automatic actions (table manners, modesty and immodesty, the taboo); the customary act is the ethical act. In all these cases conscious motive is often absent; man finds himself thinking and acting thus and so, and thereafter invents secondary explanations of his thought and conduct. The promising line of research is the tracing of diverse objective phenomena to similar psychical processes.] **A. Meyer.** 'The Dynamic Interpretation of Dementia Praecox.' [The writer begins by outlining a number of cases, which are to form the basis of his discussion. He then criticises, as empirical, formal and dogmatic, Kræpelin's view of dementia praecox as a disorder of auto-intoxication, involving a special (assumed) brain disorder. Instead of starting from general paralysis as the paradigm of psychiatry, we must start from the paradigm of the complete action, as a function which is progressively disorganized by subterfuges and substitutions, at first harmless, later harmful and uncontrollable; we must note defects of balance, special tendencies and habitual ways of bungling; we must

define the responsible factors, so far as possible, in terms of the untimely evocation of instincts and cravings, and ensuing habit-conflicts, with their effects on the sum-total of mental metabolism, on actual conduct, on the capacity of self-regulation in emergencies; we must be on the watch for the Freudian complexes. This dynamic view leads the physician to the demonstrable facts of the case; affords such prognosis as the nature of the disorder in general permits; suggests the reasonable course of treatment; heads off misleading anatomical analogies; and brings to the common denominator of experience the abstract teachings of psychology and philosophy.] **E. B. Titchener.** 'The Past Decade in Experimental Psychology.' [After paying a brief tribute to Ebbinghaus, and calling attention to the tendency of recent psychology towards application, the paper refers to the revival of Fechnerian psychophysics, the development of experimental method in the domain of feeling, the progress towards a psychology of attention, the treatment of perception and idea by the Austrian school, and the new experimental departures in the fields of memory, action and thought; it concludes with a defence of the analytical procedure in psychology.] **C. W. Perky.** 'An Experimental Study of Imagination.' [(1) The image of imagination is closely akin to perception. A distinctly supraliminal visual perception may, under suitable conditions, be mistaken for and incorporated into an image of imagination, without any suspicion on the observer's part that an external stimulus is present. (2) Memory involves eye-movement and general kinesthesia; its images are scrappy and filmy, and give no after-images; its mood is that of familiarity, pleasant; it implies imitative movements and the correlated organic sensations. Imagination involves steady fixation and general tension; its images are substantial, complete, and at times give after-images; its mood is that of strangeness, unpleasant; it implies organic and kinesthetic empathy. Memory images rise more slowly, are more changeable in course, and last less long than images of imagination; memory implies roving attention and a mass of associative material, imagination concentrated and quasi-hypnotic attention with inhibition of associations.] **W. H. Winch.** 'Colour Names of English School Children.' [The order in which the names are acquired, when the child has equal opportunities of learning them and of connecting them with the appropriate colours, is Bk-W; R; B; G; Y; V; O. This agrees with the German order (Meumann), but not with the Italian (Garbini). Possibly colour-sensation is at first unitary, and differentiates in the order given.] **E. L. Thorndike.** 'Practice in the Case of Addition.' [Some 2500 additions by educated adults increase the general efficiency in adding by 33 per cent.; here is evidence of plasticity, and also of the predominant effect of specific training upon an intellectual function. Practice has a somewhat leveling effect.] **E. L. Thorndike.** 'The Relation between Memory for Words and Memory for Numbers, and the Relation between Memory over Short and Memory over Long Intervals.' [Under the special conditions, change from words to numbers reduced the correlation from 1 to $\frac{1}{2}$; the relation between retention for 1-2 min. and retention for 1-2 days (correlation about .9) is one of the closest yet measured in human nature.] **L. R. Geissler.** 'Professor Wirth on the Experimental Analysis of Consciousness.' [Abstract and review of *Die experimentelle Analyse der Bewusstseinsphänomene*.] Psychological Literature. Book Notes. Correction.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. vii., 16. **B. C. Ewer.** 'The Tenth Annual Meeting of the Western Philosophical Association.' **I. King.** 'The Problem and Content of Educational Psychology.' [Its fundamental axiom is found to be "that an educa-

tive process essentially is one involving growth," and it begins by studying activity or impulse; after that the social atmosphere and problem-solving are considered.] **H. Walker.** 'Record of an Experience while under the Influence of Ether.' **B. Bosanquet.** 'Cause and Ground.' [Reply to Shelton in vii., 10. 'The same cause the same effect' is strictly impossible, because there are no repeatable events; and even tautologies may be very valuable. Cause and effect are arbitrary distinctions.]—vii., 17. **E. B. McGilvary.** 'Huxley's Epiphenomenalism, a Criticism and an Appreciation.' [Argues that "if epiphenomenalism is interpreted as the physical irrelevance of psychical phenomena" it may be reconciled with "a causal order which is acknowledged by every sane man".] **H. L. Hollingworth.** 'The Central Tendency of Judgment.' [Experiments showing that the 'indifference-point' is relative and that "the error to which it leads is distinctly an error of judgment, and quite independent of sensory or physiological conditions".]—vii., 18. **J. Dewey.** 'Some Implications of Anti-Intellectualism.' [Distinguishes two types, one anti-rationalistic and sensationalistic, and the other voluntaristic, and identifies himself with the latter, insisting that it is "an attempt which, while accepting the complete right and autonomy of knowing and of logic in its own field, tries to see what this field of knowledge and reflective intelligence is and means as a specific type of behaviour"] **H. S. Shelton.** 'On Secular Cooling as an Illustration of the Methods of Applied Mathematics.' [Criticises the premisses of Kelvin's calculation of the age of the earth in order "to show, not only that this speculation has been proved invalid by recent discoveries, but that, if the necessary limitation of mathematical methods had been clearly understood, it would never have been put forward".] **H. C. Brown.** 'If the Blind Lead the Blind.' [Brilliantly criticises some dicta of Perry's in his 'realistic program' in vii., 14, as to the value of mathematical method for philosophy, and argues that "the unclearness of mathematical logic and the lack of agreement in its usages make all efforts to transfer its concepts to philosophy impracticable". The illustrations are chiefly taken from Bertrand Russell.]—vii., 19. **J. Dewey.** 'William James.' [Thinks that he was "the greatest psychologist of his time in any country—perhaps of any time," and emphasises his 'sense of reality' and literary power. His thought was 'unsystematic' only in the sense that where "things were not simple or consistent, his philosophy did not consist in forcing system upon them". Alludes finally to James's "faith in the human significance of philosophy".] **J. E. Boodin.** 'Truth and Its Object.' [To say that the object selected or referred to in the truth attitude is always reality is a clumsy way of putting it, for the judging process does not aim at the universe generally (like the man who aimed at the bear) but is fundamentally selective, singling out the object by a conscious purpose. Absolute fact, as our final interpretation of reality, is a conceptual limit. Similarly absolute flux and absolute identity are logical limits. Truth, just because it tries to fix a world of process, must to a certain extent be hypothetical.] **H. H. Bawden.** 'Art and Nature.' [Art humanises nature.] **W. Brown.** 'Note on a Quantitative Analysis of Mathematical Intelligence.' [Experiments with boys, showing that "geometry and algebra are not at all closely related".]—vii., 20. **A. H. Lloyd.** 'The Passing of the Supernatural.' [Reflexions suggested by a magazine article on 'Christianity in the Crucible,' and a remark of "one of America's great college presidents".] **J. Dewey.** 'The Short-Cut to Realism Examined.' [Agrees with realism in so far as it means anti-idealism, but objects to the 'program' in vii., 15, as an attempt to derive conclusions regarding existence from analysis of a very ambiguous concept. Moreover, the distinction between knowing, *i.e.* active thinking and investigating, and achieved knowledge is ignored, and with it the

problems of doubt, hypothesis and error. So is the problem of the significance of knowing as a natural event in relation to other natural events. Altogether a weighty and incisive criticism.]—vii., 21. **E. L. Hinman.** ‘The Aims of an Introductory Course in Philosophy.’ [Thinks there has been too much Kant and not enough science.] **J. W. Hudson.** ‘An Introduction to Philosophy through the Philosophy of History.’ [“The reason why it is so notably hard to induce students to do independent thinking is that the problems with which we confront them do not seem to them worth while.”]—vii., 22. **H. M. Kallen.** ‘The Lyric Philosopher.’ [A brilliantly written defence of philosophy as poetry, but thinks philosophers should become more scientific.] **D. H. Parker.** ‘Knowledge and Volition.’ [A criticism of Rickert, Royce and Münsterberg from an intellectualistic standpoint.] **H. H. Bawden.** ‘Art and Science.’ [The artist has “a certain justification in his feeling that science is arbitrary and abstract and unreal, and that his own pursuit is a more genuine envisagement of the real”.]

INTERNATIONAL JOURNAL OF ETHICS. Vol. xx., No. 4, July, 1910.
F. Adler. ‘The Moral Ideal.’ [“Instead of a perfect individual, the moral ideal is to be described as a perfect society.” A brief but very suggestive exposition of the what, the why, and the how of this principle.] **B. Bosanquet.** ‘Charity Organisation and the Majority Report.’ [Contends, against the recent article by Prof. T. Jones, that there is no inconsistency between the principles and work of the Charity Organisation movement and the recommendations of the Majority Report; and that the preventive aims of the Minority’s proposals can be more effectively realised by those of the Majority. When the State takes over the responsibilities of individuals, the primary preventive force is enfeebled or destroyed.] **J. W. Hudson.** ‘The Classification of Ethical Theories.’ [Comments on the lack of unanimity in such classifications; and indicates the general conditions, and the outlines, of a valid classification. The principle of classification must be generated by the fundamental problem of ethics. This problem is as to the nature of the norm or criterion. The criterion of moral judgments is an end in the form of a kind of self to be realised. Hence the basis of classification is the conception of the nature of the ideal self; and the fundamentally different theories are such as emphasise respectively its several aspects—the ideational, the affective, and the volitional.] **H. S. Shelton.** ‘Spencer as an Ethical Teacher.’ [A clear and appreciative statement of his principal doctrines.] **F. C. Sharp and M. C. Otto.** ‘Retribution and Deterrence in the Moral Judgments of Common Sense.’ [A continuation of the account of a questionnaire put to students at Wisconsin. These results go to show that there is no one consistently maintained standard as the basis of popular judgments in the matter of punishment. The acceptance of retribution as a proper end of punishment does not interfere with the acceptance of deterrence. The part played by the reformative view is relatively insignificant.] **C. H. Johnston.** ‘The Moral Mission of the Public School.’ [A discussion of some of the problems of moral and religious education, taking as data the findings given in the recent report of the international inquiry concerning Moral Instruction and Training in Schools.] **N. Wilde.** ‘Religion: a Luxury or a Duty?’ [Differentiates the main types of religion, and discusses in the light of their distinctions the relation of religion to morality. The danger lies in the one without the other. “To education in religion we must add education in morals; alongside the Church will be the societies for ethical culture; as a basis for the luxury of religion, we must lay the necessity of morality.”] Book Reviews.—Vol. xxi., No. 1, October, 1910. **B. Bosanquet.** ‘The Prediction of Human Conduct: A Study

in Bergson.' [Contends that prediction is possible, because although (as Bergson urges) it involves actually being the identical individual whose action is concerned, individuals can be and are, in various degrees, identical with others.] **S. H. Mellone.** 'The Idealism of Rudolph Eucken.' [A brief summary of his general position. It is idealism with the emphasis on spiritual life and on progress. When Eucken appeals to human experience for the grounds of his philosophical and religious convictions, it is experience as *concrete* and as *growing*.] **J. A. Leighton.** 'Personality and a Metaphysics of Value.' [A tentative classification and relation of the most significant and important human valuations. The ultimate principle for the unification of values, and the final sustaining ground of values, is personality.] **Helen Wodehouse.** 'On Thinking about Oneself.' [Aims at distinguishing and describing various states or qualities which the moralist calls thinking of oneself—namely, selfishness, self-satisfaction or self-confidence, self-display, and self-approval or self-respect. Indicates the influence of religion upon moral self-consciousness.] **H. M. Kallen.** 'Is Belief Essential in Religion?' [Suggests the main lines of an investigation as to whether religion is identifiable with belief (the *attitude* of belief) or with the specific *object* or occasion of the attitude. Concludes that belief is no more essential to religion than to any other human institution. Religion is belief, but it is distinguished not by belie, but by belief's object.] **E. L. Talbot.** 'Two Modern Social Philosophies.' [Premises that "the problems of modern society cannot be adequately solved by inducing purely subjective attitudes in individuals, without relation to objective communal forces conditioning personal happiness"; and characterises, with reference to their philosophical and psychological antecedents, the two present-day objective interpretations of social growth—socialism and anarchism.] Book Reviews.

ARCHIVES DE PSYCHOLOGIE. Tome ix., No. 3. **A. Ferrière.** 'La loi biogénique et l'éducation.' [The procedure of education is subject to two fundamental laws. The one of these, which governs life at large, may be expressed in what the author terms the formula of progress: all ascending evolution implies differentiation and concentration of faculties and energies. The other, which takes on a special form for every creature, in accordance with its degree of development, and which determines the stages of its growth, is the biogenetic law of Haeckel. The writer discusses the view of Hertwig, Le Dantec, and Stanley Hall: he believes that the biogenetic law, particularising the law of progress, helps us to distinguish the normal from the abnormal, the physiological from the pathological, the useful in education from the harmful.] **O. Decroly and J. Degand.** 'Contribution à la psychologie de la lecture.' [When we teach a child to read, we set in action a number of distinct mental functions, and it is questionable whether the ordinary method, of engaging these functions simultaneously, is, psychologically, the best procedure; in particular, whether the auditory analysis of the word and its representation by writing should be carried on together. The writers justify their scruple by an analysis of seven cases, five of which show the disjunction of mental functions in abnormal, and two in normal children (three and five years old). Reading may be independent of verbal motor expression, of writing, and of the understanding of language.] **W. van Stockum.** 'Le siècle futur de la psychologie d'après G. Heymans.' [In his inaugural address as rector of the University of Groningen (1909), Heymans discusses the origin of psychology; the need which gave it birth and which it fulfils; its present status as a body of scientific knowledge; and the part which it is destined to play in the civilisation of the

future. He concludes that psychology, since it aids us to know ourselves and others, will have a direct bearing upon eugenics, and will lead up to a monistic metaphysics. The writer gives an abstract of the address, and adds a twofold criticism: Heymans ignores the masses, and speaks as if the whole world were the world of the educated classes; and he places too great a reliance upon the power of psychology to formulate exact laws, and general uniformities.] **E. Tassy.** 'Théorie des émotions; notes préliminaires.' [The difficulty in the psychology of emotion is the passage from the representative to the organic state. In order that an emotion *sensu stricto*, a psychical emotion, may arise, the representation and the bodily manifestations must be related by an elementary mechanism which has connexions with both. The key to the problem lies in the 'mental' emotion, such as the 'mental fear' set up by presentation of the unknown; this mental fear brings with it its organic correlate, 'organic fear'; at the same time, as a shock to ideation, it can act upon the 'thought mass' and excite the consciousness of personality, of our own psychical activity; the self is thus interested in the work of thought, and the true or psychical emotion is complete. The three great functions, the organic, the mental and the psychical, are dissociable, and relatively autonomous each in its proper sphere; the mental mediates between the other two.] **A. Maeder.** 'La Langue d'un aliené; analyse d'un cas de glossolalie.' [Range of ideas, vocabulary, and syntax, in a case of *dementia praecox*. The speech has the usual characters of affectivity and infantilism; it is, however, not demonstrative, as glossolalia ordinarily is, but has the cast of preoccupation with self which is characteristic of the disorder.] **A. Reymond.** 'Caractère rôle de l'histoire et de la philosophie des sciences.' [Philosophy is characterised by universality of problem and subjectivity of its solution; science by restriction of problem, and by postulation of principles whose objectivity may at any time be controlled. The philosophy of science has the task of bringing into clear light the methods and principles peculiar to the various sciences, and of comparing them with a view to classification. For this twofold task, the history of science is an indispensable aid. Further, a knowledge of history is of direct value to men of science, and a knowledge of the methods and principles of science is of direct value to philosophers.] Bibliographie. Notes diverses.

REVUE DE PHILOSOPHIE. Septembre-Octobre, 1910. A double number, all devoted to studies of Darwinism. 1. **A. Gemelli.** 'Darwinism and Vitalism.' 2. **A. Briot.** 'The Problem of the Origin of Life.' 3. **C. Torrend.** 'Transformation in the Lowest Grades of the Vegetable Kingdom.' 4. **E. Wasman.** 'The Psychical Life of Animals.' 5. **H. Colin.** 'Mutation.' 6. **R. de Sinty.** 'Mimeticism and Darwinism.' 7. **M. Kollmann.** 'The Factors of Evolution, Selection and the Influence of Environment.' 8. **R. D.** 'The Fundamental Law of Biogenesis.' [That Phylogenesis is the mechanical cause of Ontogenesis, doubts thereon.] 9. **J. Gerard.** 'State of the Controversy in England.' 10. **J. Maritain.** 'Neo-vitalism in Germany and Darwinism.' [In Nos. 1 and 10, the ablest articles of this able and important issue, Darwinism is shown to be essentially mechanical, and, as such, to be set aside by the Aristotelian 'entelechy,' revived upon experiments of the segmentation of the ovum by M. Driesch. No. 2 details the dispute between Bastian and L'asteur on Spontaneous Generation. No. 3, a shrewd and sparkling article, deals among other things with the permanence of type among the cosmopolitan Myxomycetea, and with the fiction of a primitive plasm. No. 7 discusses the transmission of acquired characteristics.]—Novembre, 1910. **C. de Peslouan.** 'Researches on the Nature of the Diamond.' [An interesting account of the steps whereby Lavoisier arrived at the conclusion what combustion is,

and that the diamond is combustible.] **R. van der Elst.** 'Suggestion.' [‘There is a twofold suggestion, one morbid, another normal; one annihilating consciousness and will, the other leaving them intact; and calling them to aid; one infallible, the other problematical.’] **S. Belmont.** ‘The Knowledge of God according to Duns Scotus.’ [That Scotus did not lead up either to Hume, for Agnosticism, or to Rosmini, for Ontologism.] **Th. L.** ‘Positivism and Pragmatism.’ [The latter evolved from the former.]—December, 1910. **A. Gomez Izquierdo.** ‘The Philosophy of Balméz.’ [What Balméz understands by ‘common sense,’ and under what conditions he takes it to be the criterion of truth.] **R. Jeannière.** ‘The Theory of Concepts in Messrs. Bergson and James.’ [How to reconcile concept with intuition? How, on the idealist principle that *esse* is *percipi*, can the same object be viewed by different observers under different aspects?] **G. Larroque.** ‘Descartes and Sociology.’ [Traces the creed of Liberal politicians to the philosophy of Descartes.] **P. Le Guichaoua.** ‘Metaphysical Theories of Movement.’ [An attempt to set up the Aristotelian theory of matter and form as the sole rational account of movement.]

REVUE NÉO-SCOLASTIQUE. Août, 1910. **P. Mandonnet.** ‘Roger Bacon and the *Speculum Astronomiae*.’ [Reasons for assigning the work to Bacon, not to Albertus Magnus. Bacon’s predilection for astrology.] **C. Piat.** ‘The Life of Intelligence.’ [Mill’s reduction of evidence to long familiarity; his ignoring of any essential exigencies of things; his admission of a “permanent possibility of sensation,” fatal to his philosophy.] **F. Pathières.** ‘The Moral Problem and Sociology.’ [“The moral problem is above all a question of *value*, which must consequently be solved, not by the pure and simple statement of the manners and behaviour of man, but by the higher consideration of what man must be to have a moral value, a human dignity, to realise in himself that which his quality of man essentially implies. From this point of view, the idea of the order of beings must be placed at the very basis of morality.”] **F. de Hovre.** ‘The Social Philosophy of Benjamin Kidd.’

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 17^e Année, No. 5. **L. Lévy-Bruhl.** ‘L’orientation de la pensée philosophique de David Hume.’ **Henri Dufumier.** ‘Les théories logico-métaphysiques de MM. B. Russell et G. E. Moore.’ **René Berthelot.** ‘Sur le pragmatisme de Nietzsche’ (*suite et fin*). Étude Critique, Supplément, etc.—17^e Année, No. 6. **É. Durkheim.** ‘Sociologie religieuse et théorie de la connaissance.’ **G. Dwelshauvers.** ‘La Philosophie de Jules Lagneau.’ **K. B.-R. Aars.** ‘La nature de la pensée logique.’ Correspondance inédite de Ch. Renouvier et de Ch. Secretan (*suite*).—18^e Année, No. 1. **F. Enriques.** ‘La métaphysique de Hegel considérée d’un point de vue scientifique.’ **A. Lasson.** ‘Quelques remarques sur l’*Ethique à Nicomaque*.’ **Ch. Dunan.** ‘La morale positive.’ **C. Bouglé.** ‘Le Darwinisme en sociologie.’ Questions Pratiques: **Guy-Grand.** ‘Le procès de la démocratie.’ Supplément.—18^e Année, No. 2. **E. Boutroux.** ‘Hasard ou Liberté?’ **B. Brunhes.** ‘L’objectivité du principe de Carnot.’ **F. Le Dantec.** ‘Il y a fagots et fagots.’ **H. Daudin.** ‘F. Rauh: sa psychologie de la Connaissance et de l’Action.’ Études Critiques, Variétés, Questions Pratiques, Supplément.—18^e Année, No. 3. **B. Russell.** ‘La théorie des types logiques.’ Correspondance inédite de Ch. Renouvier et de Ch. Secretan (*suite*). **H. Daudin.** ‘F. Rauh: sa Psychologie de la Connaissance et de l’Action.’ Discussion: **J. Lachelier.** ‘Note sur les deux derniers arguments de Zénon d’Elée contre l’existence du mouvement.’ Supplément, etc. Numéro Supplémentaire: Trois lettres d’Epicure, Version française par **O. Hamelin.**

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ZEITSCHRIFT F. PSYCHOLOGIE. Bd. lvi., Heft 1 und 2. **H. Ohms.** 'Untersuchung unterwertiger Assoziationen mittels des Worterkennungsvorgangs.' [Pairs of words, *a-b*, *c-d*, etc., are associated by repetition, but not so strongly that on presentation of the first term the second is reproduced; the associations are subliminal. Nevertheless, if *a* is shown, *b* is in some measure prepared for. The problem is to determine the degree of influence exerted by *a*; it is solved by the pre-

sentation of *b*, under conditions which render its apprehension difficult ; the cognition time of *b* is taken, and compared with that of a *d* whose correlated *c* has not been previously exposed. Visually, the necessary conditions are realised by means of the tachistoscope ; auditorily, by means of an old-fashioned telephone. (1) The words prepared for (Russian words connected with their German equivalents) are invariably better apprehended than words not prepared for. (2) The cognition times show no appreciable differences of a general kind, though their relations (under the two sets of experimental conditions) vary definitely with the mental type of the observer. (3) Investigation of the influence of the age of the subliminal association upon the process of preparation shows that associative preparation is of small account if a preservative preparation is already in the field.] **S. Witasek.** 'In Sachen der Lokalisationsdifferenz; zur Klärung und Abwehr.' [Reply to Hildebrand's criticism in Bd. liv.; the author reiterates his conviction of the reality of the difference of monocular localisation.] **W. Sternberg.** 'Geschmack und Sprache.' [All languages, living and dead, appeal to the sense of taste to designate aesthetic enjoyment. The reason is that the taste qualities are connected, most intimately, with the feelings of pleasantness-unpleasantness ; taste is the bridge that leads from pure sensation to 'common feeling' ; linguistic usage is thus physiologically justified. As instances in which the guidance of language may be of service, the writer cites the distinction of nauseous (said of substances in the mouth) and nauseating (said of substances that may act at a distance, as by sight, or even by way of verbal description), and the range of the desiderative verbs in Greek and Latin.] Literaturbericht.—Bd. Ivi., Heft 3. **W. Peters.** 'Über Ähnlichkeitsassoziation.' [In the typical association by similarity, the perception *abcd* reproduces the idea *abmn*; the factor *ab* may be absolutely identical in both formations, or may be only relatively the same (spatial relations in photograph and original picture, tonal relations in melody played in different keys). It thus differs in two ways from the typical association by contiguity, or empirical association : for in this the reproduced idea would be *mn*, not *abmn*, and the reproductive tendency would issue from *abcd*, not from *ab* alone. Experiment shows that association by similarity is of frequent occurrence when a nonsense-syllable is replied to by another nonsense-syllable or an ordinary word ; that the number of syllables in the associated word depends upon that of the stimulus word ; that the reactor tends to error by altering that sound in a syllable whose change results in the closest resemblance to the original syllable ; that the efficiency of reproduction depends upon degree of similarity ; that the ratio of similarity-associations to memory varies with individuals, and also with the number of readings of the presented material. These results may all be explained on the hypothesis of a partial preservation of the reproducing perception. Incidentally, the author points out that an association by similarity need not involve consciousness of similarity ; and that there is no evidence of an effective similarity that can be defined as 'qualitative propinquity,' such as has been assumed, e.g., in the case of colours.] Literaturbericht. **K. Vossler.** 'Erklärung.' **A. Marty.** 'Entgegnung.' [Apropos of a review in Bd. iii.] 'Der VII. Internationale Kongress für Kriminalanthropologie.'

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. exxix., Heft 2. 1910. **Bernhard Detmar.** 'Carneades und Hume.' **Dr. Hans Eibl.** 'Platons Psychologie (Schluss).' **Karl Bornhausen.** 'Das religiöse Apriori bei Ernst Troeltsch und Rudolf Otto.' **Dr. Rudolf Kinkel.** 'II. Literaturbericht über Erscheinungen aus dem Gebiete der Ethik und Religionsphilosophie.' Notizen, etc.

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NOTE ON EPICUREANISM AND NATURAL LAW.

Dr. John Masson, in one of the Appendices to the complementary volume of his interesting work entitled *Lucretius: Epicurean and Poet* (London, 1909) takes occasion to dispute the late Prof. Sellar's assertion (adopted by me) that in the philosophy of Lucretius "the *federa naturai* are opposed to the *federa fati*". And he goes on to maintain against me that Epicurus is justly credited with proclaiming the reign of law (*op. cit.*, pp. 168-169). It is unfortunate that Dr. Masson's references are made not to the chapter on Epicurus and Lucretius in volume ii. of my *Greek Philosophers*, but to an article in the *Westminster Review* for April, 1882, of which that chapter is a revised reprint. Thus it is neither easy for me to verify his quotations nor to tell how far I am responsible for the exact wording in which they are given. However, my opinion of the scientific value of Epicureanism has remained substantially unaltered since it was first published; and I am prepared to abide by the particular expression given to it in my *Greek Philosophers*.

First as to the *federa naturai*. These, according to Dr. Masson, "are never really opposed by Lucretius to the *federa fati*". I admit that they are not opposed in terms; but they are practically opposed to an extent that fully justifies Prof. Sellar's use of the word. For the *federa naturai* are never once mentioned as having been broken, whereas the *federa fati*, on the sole occasion when the phrase occurs in Lucretius, are mentioned only as being broken. The passage runs as follows:—

"Denique si semper motus connectitur omnis
et veter exoritur semper novus ordine certo
nec declinando faciunt primordia motus
principium quoddam quod fati federa rumpat
ex infinito ne causam cause sequatur."

—(*De Rerum Naturâ*, ii., 251-255).

Translated by Munro: "If all motion is ever linked together and a new motion ever springs from another in a fixed order, and first beginnings do not by swerving make some commencement of motion to break through the decrees of fate that cause follow not cause from everlasting". Or, as he puts it in the note, "to break the perpetual sequence of cause and effect". Thus the *federa fati* stand for two fundamental laws of Nature, the law of universal causation, and the law that the ultimate atoms of which all existing things are composed fall for ever downward through infinite space with the same uniform velocity and in perpendicular straight lines. They are only associated with fate in a metaphorical way and without any reference to the predetermined of events by supernatural volitions. Where Lucretius elsewhere refers to fate, which is not often (bk. v., 110, 310, 874), it is much as we use the word, that is in the sense of an inevitable catastrophe. *Federa naturai*, on the other hand, are not ultimate laws of Nature, but rather the fixed conditions within which composite bodies, and more particularly organic bodies, fulfil their appointed and strictly finite term of existence (bk. i., 580; bk. ii., 302; bk. v., 58, 311, 922; bk. vi., 906). The last instance is exceptional, dealing as it does with the cause of magnetism).

What breaks the *federa fati*, the law of universal causation and the first Epicurean law of motion, is what Lucretius calls the *clinamen*, the slight occasional deflection of the falling atoms from their rectilinear descent, assumed by Epicurus in order to account for the fortuitous con-

course whence the present frame of things was, in his philosophy, supposed to result. That such a breach of natural laws is possible and even of everyday occurrence the Epicureans thought might be proved by appealing to the alleged fact of human and animal freewill. But obviously they did not restrict this immunity from unbroken causal sequence to men and animals. It is shared by every single atom, and when, or how often, or with what results it may come into play is an absolutely incalculable contingency. Dr. Masson as a close student of Epicureanism must know this as well as I do, yet in his criticism on my criticism he utterly ignores it. He suggests that "perhaps Mr. Benn holds that a belief in free-will is not consistent with a belief in Laws of Nature. This would help us to understand his assertion that Epicurus did not to any extent believe in Law" (*op. cit.*, p. 170). What the implications of human freewill—supposing it to exist—may be, or what I personally think about the question does not concern us here. What we are concerned with is the question whether uncaused atomic deflection is consistent with unbroken natural law or not. I say that it is not; and at any rate I have Lucretius on my side. Dr. Masson in the passage where he attacks me does indeed assert the contrary. I am accused of failing "to see that Lucretius draws a sharp distinction between the world of Nature, subject to law, and the human mind which is free. So far as Nature—that is, the method of the world's goings—is concerned, without taking into account the agency of men, Lucretius holds that *causam causa sequitur*—'cause does follow cause'." I may be excused for failing to see what no one but Dr. Masson has ever seen and what in fact does not exist. Lucretius draws no such distinction as that with which he is here credited between the world of nature and the human mind. On the contrary, as might be expected from his materialistic philosophy, he closely assimilates the two. There is spontaneity in our volitions precisely because there is spontaneity in the atoms of which our minds are composed. Incidentally one might ask to which of the worlds, nature or mind, do horses belong? For Dr. Masson seems to forget that the poet mentions these animals also as gifted with freewill. Nor can we suppose that horses are the only animals in possession of this power. All conscious beings might be quoted with equal reason as exceptions to the law of causal sequence. I am not concerned to deny that Epicureanism recognises the existence of uninterrupted causal sequences as a general characteristic of Nature. But it recognises the same sequences as equally characteristic of rational human action. Otherwise there would be no meaning in its appeal to pleasure and pain as prevailing motives of conduct. Lucretius knew quite well that, freewill notwithstanding, horses were generally amenable to bridle and spur, and Roman soldiers to the discipline of the Roman camp. But I deny that one who admits of physical exceptions to physical causation has—what Dr. Masson ascribes to him—"the firmest grasp of the fact of law" (*loc. cit.*).

With regard to the *clinamen* Dr. Masson makes the remarkable statement that "as we saw, Epicurus held that Freewill, though active in the atoms, is nullified when these combine in matter" (*loc. cit.*). No reference is given; nor on hunting up every possible reference in the indices to both volumes have I been able to find any passage bearing on the subject. Meanwhile the statement is in obvious conflict with the admission of freewill in human beings and animals, for their minds, according to Epicurus, are composed of atoms combined in matter. There is moreover a striking passage where Lucretius seems to admit at least the possibility of a deflection from the perpendicular in the fall of all heavy bodies. Arguing that the deflection of atoms from the perpendicu-

lar line of descent must be imperceptibly minute, he explains the necessity of such a limitation in order to bar out the possible objection drawn from sensible experience, that no such deflection is ever seen to occur in the fall of heavy bodies ; for on that assumption if it occurred it would not be seen :—

“ namque hoc in promptu manifestumque esse videmus,
pondera, quantum in sest, non posse obliqua meare
ex supero cum praeceperint, quod cernere possis ;
sed nil omnino recta regione viai
declinare quis est qui possit cernere sese ? ” (ii., 246-250).

In Munro's translation : “ For this we see to be plain and evident that weights, so far as in them is, cannot travel obliquely, when they fall from above, at least so far as you can perceive ; but that nothing swerves in any case from the straight course, who is there that can perceive ? ” Had it been an Epicurean dogma that the atomic deflections are nullified in material combination nothing could have been easier for Lucretius than to have offered that explanation. The subterfuge to which he has recourse suggests that in his opinion, and probably in his master's, the *clinamen* was always going on. Absurdity for absurdity this seems less irrational than to suppose that atomic spontaneity remained dormant through the whole period of inorganic evolution and that it suddenly reappeared as an accompaniment of conscious life. Anyhow whatever its extension or restriction the anomaly remains, “ atomos declinare sine causa,” as Cicero says, “ quo nihil turpius est physico ”. Like the result of another celebrated lapse the deviation was a very little one—“ paullum nec plus quam minimum,” as our poet modestly pleads—but enough to entail the loss of his philosophical honour. To say that “ Lucretius had the firmest grasp of the fact of Law,” is to betray in oneself the loosest grasp of the fact of logic.

Dr. Masson further takes me to task for saying that “ when Lucretius speaks of *fædera Naturæ* he means not what we understand by Laws of Nature . . . but rather the limiting possibilities of existence ” (*loc. cit.*)—a phrase which he understands as meaning that “ Lucretius grasped merely the negative side of natural order ”; adding that “ a less fair criticism than this could hardly be made ”. This is unjustifiably strong language. I have given references above to every passage where Lucretius talks about *fædera Naturæ*, and I submit that in each instance except that relating to the cause of magnetism it is the negative rather than the positive side of natural order that he emphasises. And in that single instance the object of his very forced hypothesis is probably to dispel the idea that the loadstone owes its virtue to supernatural agency. Dr. Masson refers to the Lucretian phrase *majestas cognita rerum* as implying the inspiration of “ something more than negative knowledge ”. But does that phrase after all refer to Nature ? Munro's translation, “ the acknowledged grandeur of the things,” seems to show that he did not take that view, but rather interprets it as referring to the momentous human interests concerned. And what Lucretius goes on to glorify in the subsequent lines is not the wonders of Nature or of natural science, but the unprecedented services of Epicurus in rescuing mankind from the superstitious terrors that made their lives a misery and a burden. And so for his own part the poet promises to teach “ by what law (*foedus*) all things are made, what necessity there is for them to continue in that law, and how impotent they are to annul the binding statutes of time ” (v., 57-59, Munro's translation). This is not “ merely the negative side of natural order,” and I never said that it was ; but it is a note of limitation and control rather than of intellectual joy and hope.

Lucretius was, in my opinion, the greatest of Roman poets; and I am ready to admit that he was animated, far more than Epicurus, by a genuine though fatally misguided interest in the details of physical investigation. But his practical Roman genius, working in almost complete ignorance of the physical universe as it is actually constituted, debarred him from rising to such a delighted aesthetic apprehension of Nature's laws in their supreme totality as has been attained, under the influence of Spinoza, by modern poets like Goethe, Tennyson, and Matthew Arnold.

ALFRED W. BENN.

A METAKRITIK.

Prof. Perry's very suggestive article in the July number of MIND moves me to offer some observations upon his criticism of Berkeley's famous argument against the existence of material objects.

The main proposition which Berkeley aimed to establish was in substance the following: Material objects are not objects of our actual perception, nor is the supposition of such objects necessary or even legitimate in explaining our perceptual experience.

Berkeley's reasoning in support of the first part of this proposition is based upon an analysis of perceptive experience, and of the meaning of the so-called material object. To take Berkeley's example, the tulip.

Examination of our experience in perceiving the tulip shows that this perceiving experience consists of sensations (actual and possible), these sensations being combined into a definite group or complex.

This group or complex of sensations is the content of my idea of the tulip, idea being the name for that which is before the mind in perception. My idea of the tulip is, therefore, this definite complex of sensations, and all that exists as the mind's object in this special instance of perceiving. To perceive the tulip is to have just this complex of sensations, just this particular portion or content of experience. This complex of sensations is object in the sense that it is that of which there is awareness, consciousness, and which can be described, or named, and about which assertions can be made.

But the object plainly exists nowhere but in experience, since its content is the stuff ideas are made of. Now, when I examine this thing or object which is called tulip, I find that I can give no meaning to any of its so-called qualities, colour, size, distance, etc., save as I make them identical with sensations (actual or possible).

So far as these qualities are knowable they are the stuff ideas are made of. If they are anything more than experience-content, I am totally unable to say what that something more is.

Now, the sum of the qualities of this tulip, taken in their definite mode of co-existence, make up the content, the *esse* of the tulip itself. The name tulip connotes just this definite complex of qualities; and, since these qualities on examination turn out to be only modes of experience or sensations, this word tulip connotes these modes of experience or sensations, and these only. The *esse* of the tulip and this complex of sensations are one and the same thing.

Therefore, when I say I perceive a tulip, I must mean, I have here and now a certain definable complex of sensations, or definable portion of experience-content which is named tulip. It inevitably follows from this, that the tulip as an object of perception can exist only when it is perceived; for, as our analysis has shown, its very *esse*, being experience-content, the tulip can exist only in experience and as experience; and hence to suppose it to exist when not perceived, i.e., when it is not experience, is to suppose that it exists when it does not exist.

Now let us turn to Mr. Perry's criticism of this reasoning. Mr. Perry admits that the object, when it is known and as known in perception, exists only as idea, *i.e.*, as a complex of sensations, etc., or rather that "Its content is identical, element for element with the idea or content of the knowing state" (p. 331).

Of the tulip perception Mr. Perry says: "When one perceives the tulip, the idea of the tulip and real tulip coincide, element for element; they are one in colour, shape, size, distance, etc." (pp. 331-332).

The tulip in being known, exists under this form of idea. Its being known, is a mode of existence which pertains to the tulip; it is a status in which it may exist. This cognition-status is analogous to a political office, which a citizen of the United States may hold,—a status in which he may exist, say the office of President.

Now, the point of Mr. Perry's contention is, that this mode of its existence in which the tulip is a known object, is not the only mode of its existence; and that its existence does not depend upon its existing in this mode. This cognition-status is one into which the tulip-object enters; but it does not need to enter into this status, in order to exist as a tulip. In short, just as a man can enter into the status of being President of the United States, and go out of that status, without affecting his existence as a man, the status being accidental and not essential to his existence, so the tulip can enter into the cognition-status, or pass out of it, without "forfeiture of its nature or identity".

Berkeley's error, according to Mr. Perry, lay in his assumption that the cognition-status is the only status possible to an object; and that, since in that status the *esse* of the object is *percipi*, the object can exist only when perceived. That is an error as palpable as it would be to infer that Mr. Taft can only exist in the status of President, because he can be known only as President when he exists in that status. Mr. Perry maintains, therefore, that Berkeley's reasoning fails to establish his idealistic proposition. He maintains that the only thing Berkeley does establish in the case of the tulip is, that when it is known in perception, its *esse* is *percipi*; but from this fact it does not follow that the tulip must be perceived in order to exist, or that the tulip exists only when it is perceived. Now, if I rightly understand Mr. Perry's criticism, I think a Berkeleyan idealist could make in substance the following reply to it: Berkeley's reasoning has shown that the *esse* of any material object, so far as that object exists, in our human world is of the stuff ideas are made of, and consequently that an object *qua* object exists nowhere but in experience, and as experience-content. The tulip, we know or can know, has for us no other *esse* or meaning but that which its name connotes; and it has been shown what that name connotes. The word tulip and the words "complex of sensations," etc., are names for the same reality. The tulip as known is the tulip which exists, and all the tulip-existence there is for our human minds. Whatever other existence there may be, whatever other kind of reality there may be in the universe, is another story; this tulip-reality is just that which has been defined and verified. This definition exhausts the meaning of tulip.

Berkeley maintained that there are other real-beings somewhere involved in the case of the tulip. Indeed it is necessary to suppose a real-being in order to explain the tulip-existence, but this other being is not the tulip in some other status of its existence.

Hence, to suppose the same material object called tulip to exist in some other mode or status, or to suppose it exists when not perceived, is to suppose it is a tulip when it is *not* a tulip, or that this object exists when it does *not* exist.

JOHN E. RUSSELL.

FIRST UNIVERSAL RACES CONGRESS.

London University, July 26-29, 1911.

President: The Right Hon. Lord Werdale.

Hon. Secretary: Mr. G. Spiller, 63 South Hall Park, Hampstead, London.

QUESTIONNAIRE.

(Replies must reach the Hon. Sec. by 15th June, 1911.)

1. (a) To what extent is it legitimate to argue from differences in physical characteristics to differences in mental characteristics? (b) Do you consider that the physical, or mental, characteristics observable in a particular race are (1) permanent, (2) modifiable only through ages of environmental pressure, or (3) do you consider that marked changes in popular education, in public sentiment, and in environment generally, may, apart from intermarriage, materially transform physical and especially mental characteristics in a generation or two?

2. (a) To what extent does the status of a race at any particular moment of time offer an index to its innate or inherited capacities? (b) Of what importance is it in this respect that civilisations are meteoric in nature, bursting out of obscurity only to plunge back into it, and how would you explain this?

3. (a) How would you combat the irreconcilable contentions prevalent among all the more important races of mankind that *their* customs, *their* civilisation, and *their* race, are superior to those of other races? (b) Would you, in explanation of existing differences, refer to special needs arising from peculiar geographical and economic conditions, and to related divergences in national history, and, in explanation of the attitude assumed, would you refer to intimacy with one's own customs leading psychologically to a love of them and unfamiliarity with others' customs tending to lead psychologically to dislike and contempt of these latter? (c) Or what other explanation and arguments would you offer?

4. (a) What part do differences in economic, hygienic, moral and educational standards play in estranging races which come in contact with each other? (b) Is the ordinary observer to be informed that these differences, like social differences generally, are in substance almost certainly due to passing social conditions and not to innate racial characteristics, and that the aim should be, as in social differences, to remove these rather than to accentuate them by regarding them as fixed?

5. (a) Is perhaps the deepest cause of race misunderstandings the tacit assumption that the present characteristics of a race are the expression of fixed and permanent racial characteristics? (b) If so, could not anthropologists, sociologists, and scientific thinkers as a class, powerfully assist the movement for a juster appreciation of races by persistently pointing out in their lectures and in their works the fundamental fallacy involved in taking a static instead of a dynamic, a momentary instead of a historic, a local instead of a general, point of view of race characteristics? (c) And could such dynamic teaching be conveniently introduced into schools, more especially in the geography and history lessons; also into colleges for the training of teachers, diplomats, colonial administrators, and missionaries?

6. (a) If you consider that the belief in racial superiority is not largely due, as is suggested in some of the above questions, to unenlightened

psychological repulsion and under-estimation of the dynamic or environmental factors, please state what, in your opinion, the chief factors are? (b) Do you consider that there is fair proof, and if so what proof, of some races being substantially superior to others in inborn capacity, and in such case is the moral standard to be modified?

7. (a) Do you think that each race might with advantage study the customs and civilisations of other races, even those you think the lowest ones, for the definite purpose of improving its own customs and civilisation? (b) Do you think that unostentatious conduct generally, and respect for the customs of other races, provided these are not morally objectionable, should be recommended to all who come in passing or permanent contact with members of other races?

8. (a) Do you know of any experiments on a considerable scale, past or present, showing the successful uplifting of relatively backward races by the application of purely humane methods? (b) Do you know of any cases of colonisation or opening of a country achieved by the same methods? (c) If so, how far do you think could such methods be applied universally in our dealings with other races?

INTERNATIONAL CONGRESS OF PHILOSOPHY.

The Fourth International Congress of Philosophy will be held at Bologna from 6th April to 11th April, and will be organised in eight sections: (1) General Philosophy and Metaphysics, (2) History of Philosophy, (3) Logic and the Theory of Science, (4) Ethics, (5) Philosophy of Religion, (6) Philosophy of Right, (7) Ästhetics, (8) Psychology. In addition there will be general sittings with addresses by Arrhenius, Barzellotti, Boutroux, Eucken, Langevin, Ostwald, Poincaré, Riehl, Schiller, Stout, Tocco, and Windelband; and discussions, in one of which Bergson figures as the opener. Papers are to be sent in by the 1st January, 1911, and not more than one is to be entered in any one section. The subscription for members is 25 francs. The secretary is Prof. G. C. Ferrari, Piazza Calderini 2; and the treasurer Comte Filippo Cavazza, Via Farini 5, both in Bologna.

TO THE EDITOR OF "MIND".

May I be allowed to make a necessary correction in my notice of Dr. Werner's *Aristote et l'Idéalisme Platonicien* (*MIND*, N.S., 76, p. 593, l. 6). The mysterious reference to "the great splenic" emanates not from me but from the compositor, whose work I was by some accident given no opportunity to correct. What I actually wrote I do not know; probably "the great Hellenic [systems]" would give the necessary sense.
Yours faithfully,

A. E. TAYLOR.

St. Andrews, 8th December, 1910.